

American Cinematographer

International Journal of Motion Picture Photography and Production Techniques

NOVEMBER 1980 / \$2.00

ON LOCATION WITH
"HEAVEN'S GATE"





MNC-71CP

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CINEMA PRODUCTS: FOR SALE OR RENT

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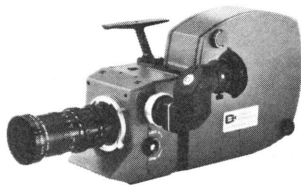
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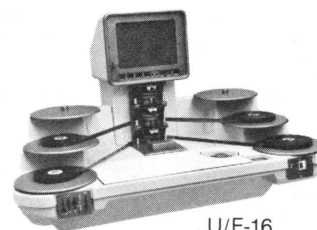
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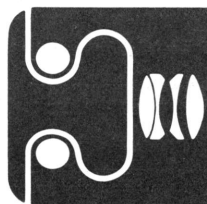
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is alive and well, and living in Hollywood

INTRODUCING THE MOVIOLA® PORTABLE... a new concept in 16mm editors. Moviola gives you more and less at the same time; more capability, more ruggedness, more editing speed, with less weight, less maintenance and less cost!

The Moviola Portable uses an all-new transport system that is easy to use and easy to maintain. A single control selects forward or reverse, 2 to 240 fps. Manual inching, all tracks in sync or separate. Clutch/declutch for tracks. Individual torque motor controls. 24 or 25 fps sound speed.

Picture and sound quality? Bright, sharp, clear and stable... thanks to a multifaceted prism, cool dichroic projection, motion-stabilized sound.

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Contact your Moviola dealer for a demonstration and the surprising low price. Then plug it in and go!

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American Cinematographer

International Journal of Motion Picture Photography and Production Techniques

The American Society of Cinematographers is not a labor union or a guild, but is an educational, cultural and professional organization. Membership is by invitation to those who are actively engaged as Directors of Photography and have demonstrated outstanding ability. Not all cinematographers can place the initials A.S.C. after their names. A.S.C. membership has become one of the highest honors that can be bestowed upon a professional cinematographer, a mark of prestige and distinction.

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ON THE COVER: Filming a scene from HEAVEN'S GATE, written and directed by Michael Cimino, presented by Partisan Productions for release by United Artists. The scene shown was shot at Oxford University in England, around a tree which was located elsewhere, chopped into pieces and reassembled in the quadrangle. Three camera crews, under the direction of Cinematographer Vilmos Zsigmond, move on a circular dolly track to follow dancers around the tree. Photograph by JOANN CARELLI.

THE DAYS WHEN PEOPLE SIMPLY



"Sondor, a new Philosophy in Magnetic Film Recording!"

For more than a generation Sondor has been successfully tackling the problems of optimizing film soundtracks. For people who work with films and for those who watch them.

We have committed ourselves to a medium with a rich tradition. Since its invention more than 30

years ago the perforated magnetic film has been the preferred medium of the sound engineer. For recording, editing and reproduction.

But the picture moves in jumps – and sound glides. Sondor has succeeded in taming the magnetic film. We have come to terms with electronic and have demonstrated that we mean business. If a perforated magnetic tape has to be transported forward and backward over a precisely defined

WATCHED FILMS HAVE GONE.



istance, there is only one design technique which guarantees slip-free transport: toothed reels and apstan drive. The "m03 libra", the new-concept equipment from Sondor, has brought this technique to perfection.

More than that: Sondor has used the very latest technology and has also applied stringent ergonomic principles in order to produce a generation of equipment which combines unequalled ease

of operation with maximum versatility. Starting with simple insertion of the film and finishing with flawless sound out of the loudspeaker.

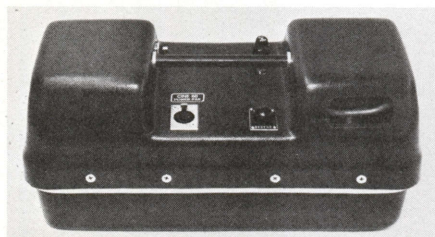
An important point: the "m03 libra" is probably the first and only studio magnetic film apparatus produced in a standard version that has all the trimmings – a unit with so many facilities that it makes complex and expensive ancillary equipment unnecessary.



Being better isn't easy.

WHAT'S NEW

IN PRODUCTS, SERVICES AND LITERATURE



NEW HIGHER-CAPACITY NICKEL-CADMIUM POWER PACKS

A new line of higher-capacity nickel-cadmium power packs designed to provide longer operating times for ENG and EFP TV cameras, VTRs and battery-operated lights is now available from Cine 60 Inc. The new battery packs have 20 and 10 ampere-hour capacities and as much as ten times the life expectancy of silver-zinc batteries. The packs employ long-life reliable premium-grade nickel-cadmium cells. The battery packs can operate some VTRs for nearly 23 hours, some lights for almost 2½ hours, and some TV cameras over 10 hours continuously.

The nickel-cadmium cells are housed within a rugged portable carrying case with a built-in overnight charging system.

There are nine models in the new line, ranging in voltage from ± 7.2 to 30 volts at 20 and 10 Ah. Various models are equipped with 4- or 5-pin Cannon connectors and/or 2-pin Amphenol connectors for use with various portable TV equipment.

All power packs measure 14¾ by 6½ by 6¾ inches and weigh from 18 to 26 pounds, depending on model. Prices range from \$1500 to \$1700.

For further information, contact Cine 60 Inc., 630 Ninth Avenue, New York, N.Y. 10036 or phone (212) 586-8782.

TAV'S BORDER PROGRAM SPEEDS ON-LINE EDITING

Trans-American Video's Hollywood facility was recently the location for the videotaping of "We Open In New Haven" from Harvey Lembeck Productions, for Showtime.

After taping the 90 minute Special, on the "Celebrity Theater" stage, Lembeck and company moved into the post production facility for editing.

Their on-line edit took half the expected time as a result of TAV's exclusive Border Program.

A normal on-line edit consists of ap-

proximately 44 edits per hour. Yet with the exclusive Border Programming developed at TAV, Lembeck's show did an average of 68 edits per hour, a total of over 850 edits in the two-day assembly.

Border Programming designed by TAV's expert staff, takes on-line editing a step further. While "B" mode, also known as checkerboard assembly when used by, or with auto assembly, will read reel changes and rearrange them in reel sequence, before playing back, Border Programming will also read the sequence and time codes.

At TAV it is no longer necessary to rearrange reels and time codes separately. The exclusive border program puts an almost perfect rough cut together in the computer.

According to the producers of the Lembeck Special, they could never have done such a fast and professional job at any other post production facility.

The Special, which stars a group of student actors and actresses, in Lembeck's professional comedy workshop, is a backstage look at putting together a show. The Special, a pilot for a possible series, will air over the cable network during Showtime's new winter season.

Trans-American Video, a division of Merv Griffin Productions, is located at 1541 North Vine Street, Hollywood, with remote facilities at 3355 West Spring Mountain Road, Las Vegas.



IMAGE DEVICES INTRODUCES NEW MICRO-MIXER II

Image Devices Incorporated announces the availability of the new IDI Micro-Mixer II.

Small enough for a video recordist or technician to hand-carry with the recorder to location, the IDI Micro-Mixer II solves multiple shooting problems.

- Compact size: 160mm long (6 3/8 in); 80mm deep (3 3/16 in); 55mm high (2 3/16 in).

Weight: .852 kg (1 lb 14 oz).

- A new noise-level device reduces extraneous noises, assuring quiet background and superior sound recording through four mike inputs.

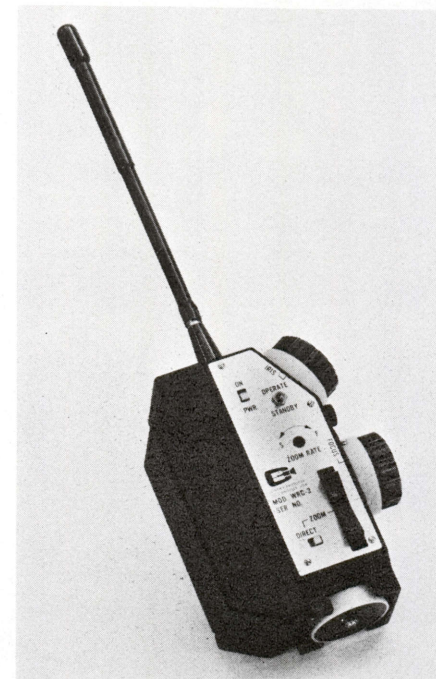
- Input 4 and the output are both switchable to mike or line level.

- LED VU meter has faster response time than standard analog meters.

- Self-powered with either standard NiCads or throw-away batteries, the IDI Micro-Mixer II is designed for on-location use.

Price of a new IDI Micro-Mixer II: \$595 with disposable battery pack; \$695 with NiCad battery pack. Custom built-in options are available.

For further information, contact Image Devices, 1825 NE 149 St., Miami, FL 33181 or 1651 Phoenix Blvd., Suite 5, P.O. Box 490250, Atlanta, GA 30349. Call Toll Free 800-327-5181.

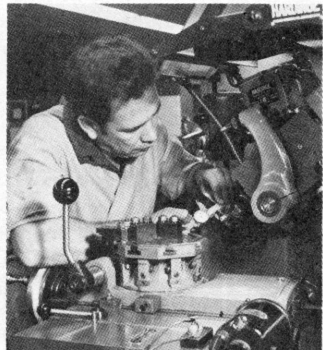
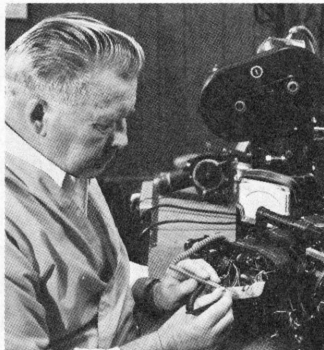
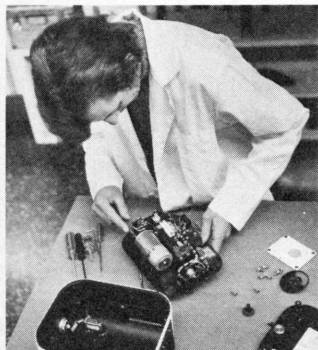
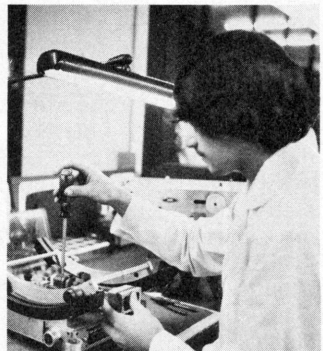
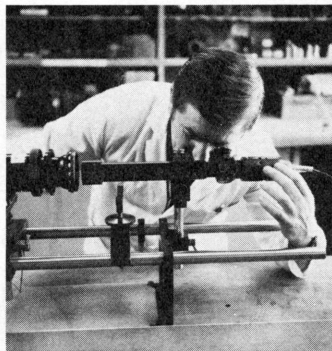
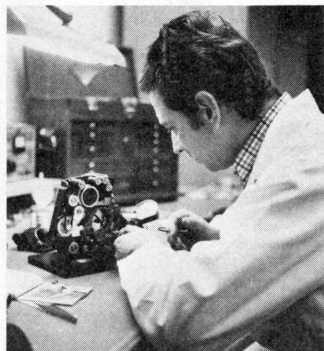
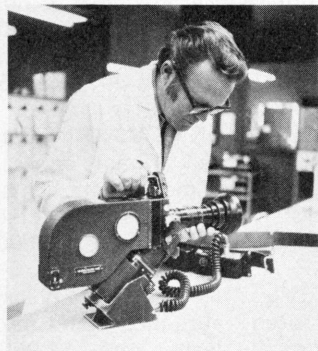
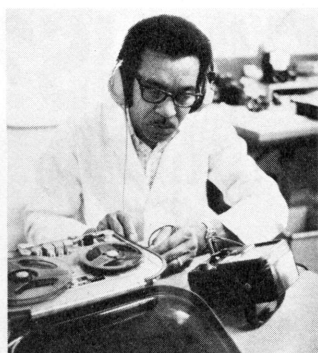


NEW 3-CHANNEL WIRELESS LENS CONTROL SYSTEM AVAILABLE FROM CINEMA PRODUCTS

Cinema Products Corporation announces the availability of an exciting, FCC-certified wireless servo-lens-control system for professional motion picture cameras—the WRC-3 three-channel system for remote iris, focus and zoom lens control.

Eliminating the need for any physical contact or cable connections between the camera assistant and the motion picture camera, the WRC-3 wireless system permits the camera assistant to control all lens functions conveniently from a distance. This makes the WRC-3 system the ideal lens control system for all hand-

Continued on Page 1194



service is our specialty

We call our staff of camera technicians "The Service Team." Mainly because each one is a specialist whose knowledge of maintenance and repair goes beyond what you would normally expect. Our specialists, many of them factory-trained and whose expertise we rely on to keep our vast rental inventory in top working condition, believe, as we do, that expensive cameras deserve the best treatment available. That is why, when you bring in your professional equipment for servicing — whether it is an Arriflex, Eclair, CP-16, Mitchell, Milliken or any camera or accessory item from lenses to lights — you can be sure your AGE Inc. service technician is the most competent in the

business. Your equipment is repaired quickly but efficiently, thus assuring you of a minimum of down time. If your equipment is in need of a complete overhaul or just a minor adjustment, winterizing, modifying or a combination of these services, either mechanically, optically or electrically, check with our Service Team today. **Most pros do.**

Shipping equipment to AGE Inc. for service: Equipment must be sent freight pre-paid and fully insured. We recommend that a list of problems be included with equipment. Our technicians will analyze the problems and prepare a cost estimate. Those in a hurry can request repairs without estimate. **For further information, call (213) 466-3561.**

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16MM CAMERAS

ARRIFLEX 16M; 16mm, 25mm, 50mm Zeiss Planars, 2-400 ft mags, 8V const speed mtr, cables, matte bx, power belt, cases . . . One owner . . . **\$5,200.00**

ARRIFLEX 16S; 12-120mm w/mtr drive, 2-400 ft mags, torque mtr 8V VS mtr, cables, fltr hldr, 1-battery, 85, case, fluid head & tripod **\$4,750.00**

ARRIFLEX 16BL; 12-120mm Ang, matte box, Xtal control, 2-400 ft mags, battery, cables, case. . . **\$7,250.00**

ARRIFLEX 16S body, 50mm lens, 8V VS mtr, cable, battery . . . **\$2,500.00**

AURICON Pro 600 TVT, 2-1000 ft. Mitchell mags, mag adapter, VF door, zoom door **\$795.00**

BEAULIEU R16; 12-120mm Ang., Auto Exp Sys, 1000 ma battery, Vivitar diopters, asst filters, cable release, case **\$2,350.00**

BOLEX 16 REX5; 16mm, 25mm, 75mm Switars, 400 ft mag, take-up mtr, CS mtr, 12V pack, rex-o-fader, Vfinder, matte box, cranks, case. . . **\$1,775.00**

CINEMA PDCTS CP16R; 9.5-57mm f/1.6 Ang, orientable eye-pc, 2-PLC-4 mags, 3-NC4 batts, 2-cghrs. shade case **\$7,785.00**

CINEMA PDCTS GSMD; 17.5-70mm Ang, orientable eyepiece, 2-battery, 2-chgrs, 400 ft mag. shldr pod. & case. Rebuilt, full 6 mos factory warranty **\$9,895.00**

CINE-SPECIAL: 115V time lapse mtr, 2-100 ft mags, 15mm, 25mm, 50mm, 63mm, 102mm lenses **\$750.00**

ECLAIR NPR; 9.5-95mm Ang, 2-400 ft mags, orientable eyepiece, Perfectone Xtal mtr, cables, battery & cases **\$7,950.00**

35MM CAMERAS

ARRIFLEX IIC w/28,50,75mm, lenses, matte box, VS mtr, cables, batt, 2-480' mags & case **\$8,430.00**

ARRIFLEX 11CHS, 24-80FPS mtr & control, cables, 30VDC belt, 2-480' mags, matte box, 28,50,75mm lenses & cases **\$9,250.00**

ARRIFLEX IIC CP hard front, const speed mtr, cables, 16V batt, 25-250mm Ang in BNCR mt, 85 fil, shade, ring custom lens mt & cases **\$10,750.00**

MITCHELL BNCR, full mirror reflex, 20-120mm Angenieux lens, J-4 control, lens blimp & 20-120 entdr, CP Xtal mtr, battery, chgr, 4-1000' mags, set of cases. Top condition. **\$25,500.00**

LENSES

5.7mm f/1.8 Kinoptik Tegea, Arri-mt **\$825.00**

10mm f/1.8 Cinegon, Arri-mt . . . **\$490.00**

12.5mm f/1.8 THC Kinetal, Arri-mt **\$485.00**

12mm f/1.2 Cine Navitar, "C" mt **\$125.00**

16mm f/1.8 Switar, "C"-mt. **\$175.00**

18.5mm f/2.2 Angenieux, Arri-mt **\$595.00**

25mm f/0.95 Omnippon, "C"-mt **\$460.00**

25mm f/1.4 Omnippon, "C"-mt. **\$150.00**

50mm f/2.0 Cine Xenon, "C"-mt **\$125.00**

40mm f/2.8 Makro-Kilar, Arri-mt **\$320.00**

35mm f/1.2 Cine Xenon, Arri-mt **\$425.00**

28mm f/1.2 Cine Xenon, Arri-mt **\$375.00**

90mm f/2.8 Makro-Kilar, Arri-mt **\$465.00**

100mm f/2.0 Xenon, Arri-mt. . . **\$560.00**

100mm T2.8 THC Panchro, Arri-mt **\$550.00**

ZOOM LENSES

9.5-95mm f/2.2 Angenieux, Arri-mt **\$1,950.00**

120-120mm f/2.2 Angenieux, CA-1 mt **\$1,450.00**

12-120mm f/2.2 Angenieux, "B" mt. Demo. **\$1,895.00**

12-240mm f/3.5 Angeieux, Arri B-mt **\$5,275.00**

25-120mm K35, Canon, 2X extndr, BNCR & Arri-mts, bracketry **\$5,250.00**

20-120mm f/2.6 Angenieux, Arri-mt **\$9,750.00**

35-155mm f/3.8 Som-Berthiot w/finder B&H Eyemo-mt **\$775.00**

25-250mm f/3.2 Angenieux, Arri-mt **\$4,500.00**

ACCESSORY EQUIPMENT

CINEMA PRDCTS crystal mtr IIC w/flat base **\$950.00**

O'CONNOR 100B fluid head & HD tripod. **\$1,350.00**

MATTHEW'S door way dolly . . **\$875.00**

KLEIGL arc spotlight **\$250.00**

VEGA 55/56 wireless mike system **\$750.00**

HOLMES 35MM opt-sound projector **\$895.00**

MILLER "F" fluid head & FOBA metal legs. **\$585.00**

MOVIOLA LVR library reader opt/mag **\$2,250.00**

KODAK 16mm Pageant Interlock with PALMER PMA magnetic transport **\$2,350.00**

CENCO optical bench 125mm & 60mm tables & assorted holders. . . . **\$400.00**

BELL & HOWELL 16mm tracking finder w/door **\$325.00**

FAX ANIMATION STAND "SENIOR" w/Mitchell 16mm camera, 50mm lens, stop motion mtr, lights, etc. Less than two years old. Like new. Send for details . . **\$10,500.00**

NAGRA IVL, 7½" speed, 2 ea preamps, Xtal speed, auto-mix, self resove, ATN2 supply, leather case. . **\$3,950.00**

EDITING

MOVIOLA upright w/arms, 16mm UL20CS **\$2,995.00**

CECO 35mm EDITOR 360-B . . **\$495.00**

MOVIOLA 16mm, 2 gang sync SZB **\$110.00**

MOVIOLA 2+2 16/35mm sync SYBZB-A **\$295.00**

EDIQUIP 16mm, 6 gang sync 1036 **\$190.00**

MOVIOLA amplifier URS. **\$80.00**

EDIQUIP 4 position amplifier . . **\$110.00**

MOVIOLA Sound track reader SRM **\$150.00**

PRECISION opt/mag reader 800 **\$265.00**

35mm OPTICAL sound reader. . **\$150.00**

MOVIOLA rewind with long shaft **\$22.50**

CINEMA ARTS pair of rewinds . . **\$30.00**

MOVIOLA 16mm Set of take up arms **\$300.00**

MOVISCOP 16mm film viewer. . **\$190.00**

MOVIOLA optical sound attach. SRC **\$290.00**

GRISWOLD 35mm cement splicer **\$20.00**

BELL & HOWELL 8.16 hot splicer **\$225.00**

BELL & HOWELL pedestal splicer, rebuilt **\$1,400.00**

MAIER-HANCOCK 8-16 hot splicer **\$225.00**

MAIER-HANCOCK 16-35 hot splicer **\$275.00**

Film Editing Bins **\$50.00**

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The Arriflex Servo Zoom Drive:



The smoothest and most subtle action you can buy, and the widest speed range. You move your thumb to left or right, the way thumbs naturally move. All electronic controls are built into the Grip. You can mount it on its own tripod pan-handle.

The Servo Zoom Drive consists of the Hand Grip, shown here, plus the motor with its lens coupling. All electronic controls are built into the Grip. The motor runs on the camera's 12 volt battery.

The rosette coupling at the top of the Grip fits onto the end of the pan-handle tube that comes with the unit. You can slide that into a tripod head, in place of the regular pan-handle. Or, of course, you can hand-hold the Grip. It weighs 1 lb. 13 oz. The motor and its cable together weigh exactly 2 lb.

Natural sideways thumb movement.

You've grasped the cylindrical Grip, with your fingers wrapped around it. Hold it steady. Now, what's the easiest way to move your thumb? Left and right. That's the way the ARRI Servo Zoom control works, as you can see in the photos below. With this natural sideways movement, it's easy to make smooth and subtle zooms.

The Zoom Drive uses a sophisticated servo loop. Turn the thumb control slightly, it zooms slowly.

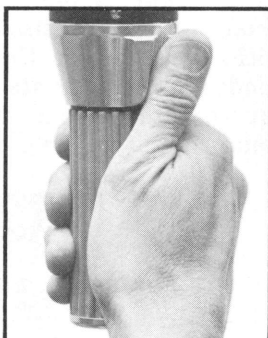
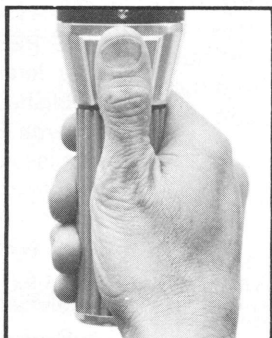
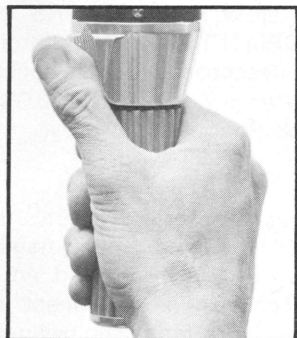
The more you turn, the faster it goes. When you stop *with your thumb in the turned position*, the servo goes to neutral without altering the zoom position of the lens. When you *next* move your thumb, you start at the slowest speed again.

Zoom speeds from one second to eight minutes.

The whole action is mounted on ball bearings, for smoothness. The speed ratio is the greatest on the market—from an imperceptible creep to a whip zoom. You can set the range from creep to medium speed, from medium to high speed, or whatever. You can feather in and out, change speeds in mid-zoom, set it to end before you reach the lens stops—or to end at any other pre-set focal length. And you can make *manual* zooms with the motor in position on the lens.

Powerful motor.

Everything is electronically stabilized—no overshoots. The motor is substantial enough to overcome uneven mechanical points on the lens—no bumps. When you let go of the thumb control, it returns to the center position. And, of course, the Zoom Drive is quiet enough to shoot sync sound with.



ARRI
ARRIFLEX CORPORATION

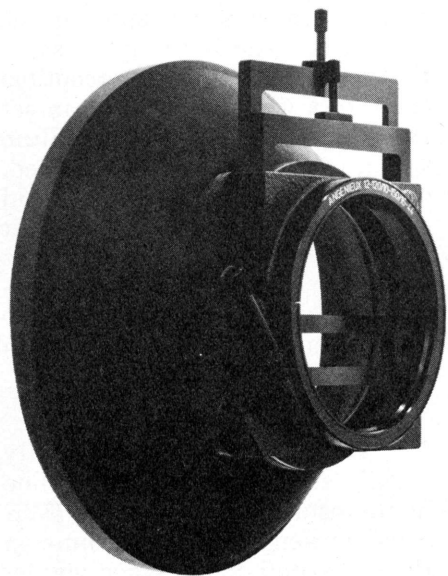
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The ARRI Lightweight Mattebox clamps onto most lenses, works with almost any camera.

The lightest weight, most compact and most economical way to mount two filters and a sunshade on all your lenses.



The Lightweight Mattebox has three basic components: a sunshade, a frame and an adapter ring.

The frame contains two 3 inch square filter-holders. The adapter-ring fits onto the back of the frame; the sunshade fits onto the front. The complete unit weighs 10 ozs and measures 3 inches front to back.

The frame, filter-holders and adapter ring are aluminum, milled for perfect flatness and finished in black. The sunshade is aluminum and black rubber.

You fit the adapter-ring over the front of the lens barrel and then clamp it tight. Various adapter rings are available, designed to fit Schneider and Zeiss fixed focal-length lenses, plus Angenieux and Zeiss zooms. You can use other lenses, too.

There's a choice of two sunshades: a $6\frac{3}{4}$ " x $5\frac{1}{4}$ " rectangular one and a round one $6\frac{3}{4}$ " in diameter. The round one is for use with zooms and hard lenses whose front end revolves.

Since the unit fits onto the lens, you can use it with any 16mm camera — and with several 35mm cameras, too. And with no extra-neous support gear, it's easy to hand-hold any of them.

Whatever camera and just about whatever lenses you shoot with, you can use the same sunshade and the same standard 3 inch square filters — two at a time. It could simplify your life.

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THE BOOKSHELF

By GEORGE L. GEORGE
ASPECTS OF CINEMA

Among recently published scripts, GWTW—THE SCREENPLAY is Sidney Howard's full 5-hour version of Margaret Mitchell's epic. Ably edited by Richard Harwell, this abundantly illustrated book includes much authentic inside information on the eventful making of the film (Macmillan \$17.95/10.95). In SIX MORAL TALES, French novelist/director Eric Rohmer created the literary foundation of several of his films (*Claire's Knee*, *My Night At Maud's*), displaying his talent at transferring to the screen the subtle nuances of a refined writing style (Viking \$12.95).

The wit and wisdom of many cinema celebrities shine in THE BOOK OF HOLLYWOOD QUOTES, diligently compiled by Gary Herman. These sayings, often with a raw edge of bitter sarcasm, reveal the problems and frustrations—and also the joys and rewards—of life and work in the movie capital (Quick Fox \$5.95).

Penelope Gilliat, the perceptive film critic of The New Yorker, assembles in THREE-QUARTER FACE her published reviews of the last several years. These are literate and nuanced evaluations, notable for their awareness of both cinematographers' and directors' work (Coward McCann Geoghegan \$12.95).

In FILM REVIEW 1979-80, an engaging yearbook imported from Britain, editor F. Maurice Speed presents a well-rounded, illustrated survey of world film production, completed by informative articles on current genres and styles, and an extensive section of film book reviews (Dutton \$8.95).

A serviceable and comprehensive quarterly edited by Ralph Newman Schoolcraft, ANNOTATED BIBLIOGRAPHY OF NEW PUBLICATIONS IN THE PERFORMING ARTS (No. 38) offers detailed descriptions of those books published between 7/1/79 and 9/30/79. (Drama Book Specialists \$2.50/yr., \$1 per issue).

From Practising Law Institute (810 7th Ave., NYC 10019), two new course handbooks: TAX SHELTERS (2nd ed.) analyzes incentives for investment in various areas, including motion pictures (\$40); videocassettes and records are

covered in **LEGAL AND BUSINESS ASPECTS OF THE MUSIC INDUSTRY** (\$25).

★ ★ ★

NAMES ON THE SCREEN

In **PECKINPAH—THE WESTERN FILMS**, six of the director's movies, unified by themes, feelings and ideas, are incisively appraised by Paul Seydor. In-depth interviews bring out Peckinpah's complex personality, his assertive views on film art and his impatience with outsiders' perceptions of his style (U. of Illinois Press \$12.95).

D. W. Griffith, cinema's father figure, is analyzed in Martin Williams's perceptive and knowledgeable biography, **GRIFFITH: FIRST ARTIST OF THE MOVIES**. Relying on abundant source material and quotes from contemporaries, Williams assesses early influences that shaped Griffith's distinctive film techniques (Oxford U. Press \$12.95).

A biography that can well become a model of the genre for its skill in presenting an unusual personality in a straight, thoroughly researched narrative devoid of easy sensationalism, **JANE FONDA: ALL AMERICAN ANTI-HEROINE** by Gary Herman and David Downing relies on factual photographs and reporting for a fully satisfying appraisal (Quick Fox \$5.95).

Philip Dunne's **TAKE TWO** is an honest, thoughtful and literate autobiographical amalgam of his distinguished career as screenwriter/director/producer and his involvement in liberal politics. Dunne's extensive filmmaking experience and fair judgment of fellow-industryites endow his memoirs with significant credibility (McGraw-Hill \$14.95).

Michael Freedland's biography, **GREGORY PECK**—the first ever written about the celebrated actor—is an eminently readable, well-documented work that indicates an understanding of the problems of reconciling a durable career with the demands of private life (Morrow \$10.95).

Further reminiscences by Lillian Hellman, assembled in **MAYBE**, present deliberately intriguing accounts of Hollywood personalities (Goldwyn, Wyler, Hammett) and various semi-fictive individuals (Little, Brown \$7.95). Composer Dory Previn's confession, **BOGTROTTER**, speaks movingly of the mental breakdowns caused by her Hollywood experiences, and the eventual recovery that led to a successful career (Doubleday \$12).

Three new books that feed the insatiable hunger of Presley fans. In **WHEN ELVIS DIED**, Neal and Janice Gregory gather articles and editorials from the world's leading periodicals dealing with the performer's sudden passing (Communications Press, Box 1346, Washington, DC 20036; \$13.95). Jerry Hopkins sums up in **ELVIS, THE FINAL YEARS** many familiar facts—some significant, some trivial—of Presley's decline and death (St. Martin's \$12.95). **ELVIS PRESLEY: AN ILLUSTRATED BIOGRAPHY** by Rainer Wallraf and Heinz Plehn, the worldwide hysteria triggered by his demise is served red-hot in striking photographs, plus a full filmo-discography (Quick Fox \$12.95).

★ ★ ★

GENRES AND TECHNIQUES

In **HANDBOOK OF ANIMATION TECHNIQUES**, Eli L. Levitan expertly surveys procedures and techniques of both conventional hand-drawn methods and today's computerized systems. Clearly written and comprehensive, its abundant illustrations include stills, drawings and charts (Van Nostrand Reinhold \$24.95).

An efficient how-to manual, **FILM MAKER'S GUIDE TO SUPER-8** offers valuable advice to beginners and advanced technicians. Compiled by the editors of Super-8 Filmmaker magazine, it discusses equipment and techniques, writing and directing, animation and special effects in informative fashion (Van Nostrand Reinhold \$14.95/8.95).

A revealing behind-the-scenes look at the design and construction of models and miniature sets, frame-by-frame animation and matte painting, David Hutchinson's **SPECIAL EFFECTS** (Vol. 2) includes the work of makeup men specializing in the blood-and-gore of horror films (Starlog \$7.95).

Significant material on the misrepresentation in films of native tribal Americans is assembled in **THE PRETEND INDIANS**, a well-substantiated exposé by Gretchen M. Bataille and Charles L. P. Silet. Evidences of racial bias and unfair stereotyping are countered with well thought-out proposals for a more positive approach (Iowa State U. Press \$19.95/9.95).

In **THE DOCUMENTARY CONSCIENCE**, problems of the genre and their practical solutions are explored by Alan Rosenthal, a filmmaker himself, in a series of probing interviews with leading documentarians whose dedication and tenacity are pitted against chronic underfinancing and general apathy (U. of California Press \$19.50/8.95).

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In addition, an EXT SYNC IN jack provides for the introduction of a reference signal between 40 and 72 Hz, which overrides the internal references and permits the tape speed to be governed by any suitable external equipment.

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“Pins on location.” Ron Dexter talks about shooting TV spots with the Arriflex 35-3.

To shoot *one* TV commercial on location, Mr. Dexter needs (at different times) high and low speeds, pin-registration, crystal-control for his HMI lights, compact size and sync sound. He owns two Arriflex 35 Type 3 cameras.



Cameraman/Director Ron Dexter (seen above with his crew and Arriflex 35-3 camera) is a member of NABET and the Directors Guild.

“We use both high and low speeds,” says Ron Dexter. “With the 2C, if you wanted 12 frames per second, it was next to impossible. You couldn’t get a steady speed that slow. With the ARRI 3, it’s duck soup.”

“On a TV spot for Burger King, we shot a ‘magic basketball player’ at 8 and 12 frames. He moved at normal speed; everybody else on the court moved extra slowly. Projected at 24, he seemed supernaturally fast. Then we had a shot of him slam-dunking the ball, at 100 frames.”

Speed!... Action!

“In the old days, when you shot at high speed, you’d crank the camera up to speed. Then somebody said: *Speed*. Then somebody said: *Action*. That took about four seconds. Now, I roll and one second later I say: *Action*. At 80 frames per second, we save about fourteen feet of film.”

At high speed, the 35-3 pays for itself.

“At 80 frames, twelve camera starts like that with the ARRI 3 save us enough, in raw stock and lab costs, to pay for a day’s rental on the camera. At 100 frames, the camera pays for itself in about nine takes. We’ve made that many before lunch.

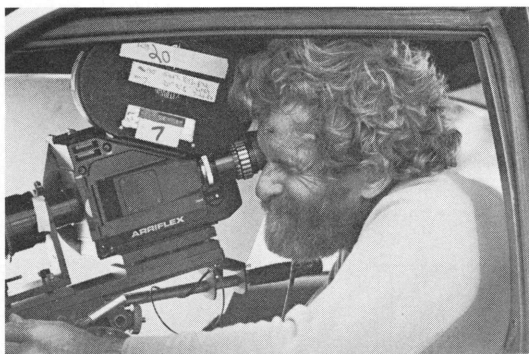
Of course, we're not renting the ARRI 3," says Mr. Dexter, "We *own* two of them — plus four old 35-2Cs."

**Same magazines,
same lenses as 35-2C.**

"The four 2Cs are four more reasons for buying the ARRI 3s. We can use the same magazines, same lenses. We often use multiple camera setups. Standardization helps there, too. We shot a stuntman (playing The Burger King) riding a bull. Stuntmen charge you by the take. We shot him with two ARRI 3s — one at 100 frames, the other at 50. We also had a 2C running at 24."

**We'll loop it. No
need, says soundman.**

"We recently made a Chevrolet Malibu spot on location in Michigan. There was one solitary lip-sync line in the whole shoot. It wasn't worth taking out a sync-sound camera just for that. It was a chest shot. The ARRI 3 was about eight feet from the actor. We had a shotgun mic two feet from him. I told the soundman: *We'll loop it*. He said: *No need — it's good*."



Dexter shoots closeup inside car. For him, 35-3 is an all-purpose tool that is, among its other virtues, compact.

Crystal for HMIs.

"I'm using HMIs a lot," says Mr. Dexter. "I take a small 4.5 kilowatt generator on location with me, and a couple of 12K lights. When a cloud comes over, I can substitute the HMIs for sun backlight and continue shooting. This last winter there were two rainy days when we should have wrapped and gone home. Both days, we tented under clear Visqueen and shot everything we needed; there were no pickups. For HMIs, you need a crystal motor; the ARRI 3 has that built in."



"I need a registered camera," says Mr. Dexter. "The ARRI 3 gives me pins on location." The 35-3 camera body weighs only 12 pounds.

Pins on location.

"There are supers in almost every commercial," says Mr. Dexter. "I need a registered camera. The ARRI 3 gives me pins on location, inside a lightweight, compact M.O.S. camera. With the *same camera, same motor*, I can shoot high speed, too — and even exterior sync sound, sometimes. Not bad!"

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CINEMA WORKSHOP



By **ANTON WILSON**

FILM VS TELEVISION ASPECT RATIO

I refuse to watch recently released motion pictures on television. Many of my friends consider this attitude quite snobby or elitist, to say the least. However, when someone mentions the fact that they have just watched the movie on television, I always ask them when they will watch the other two-thirds of the movie which they have missed. This usually produces a perplexed look, which is always followed by a request to explicate. It is then, with fiendish glee and a touch of cinematic sadism, that I begin my explanation, knowing that I will irreparably impair the listener's ability to ever again fully enjoy a movie on television.

Almost every American film shot for theatrical release uses one of the wide-screen formats; either 1.85:1, 35mm Anamorphic, 70mm, or ULTRA 70mm (1.25 squeeze). Television has an aspect ratio of 1.33:1, the so-called Academy format. It is quite obvious that the wide aspect ratio formats will have to be butchered somewhat to fit the relatively square 1.33:1 format. However, there is

more whittling away of the original cut than meets the eye.

Cropping the wide screen image to fit the 1.33:1 ratio is only step one. The broadcast industry is very conservative and they want to make sure that they don't transmit the edge of the projector aperture plate, so they don't quite scan the entire projector aperture. This smaller area is called the "Television Transmitted Area" or "Scanned Area" and usually represents approximately a

6% loss in negative area.

The most cruel cut of all is inflicted in the viewer's home by the television receiver. All manufacturers incorporate a certain amount of "overscan" in their television sets. This means that the scanning circuits blow up the image as if the picture tube were larger than it really is. In reality the smaller picture tube "crops" the image much like an 8" x 10" frame on an 11" x 14" photograph. The

Continued on Page 1162

CHART 1—Picture area losses of wide screen formats relative to "TV Safe Action Area" and "TV Safe Title Area"

	1.85:1 Wide Screen	70mm	Anamorphic CinemaScope Panavision	Ultra 70mm (1.25 squeeze)
TV Safe Action Area	47%	56%	59%	65%
TV Safe Title Area	59%	65%	68%	72%

Percentages above are *lost* area

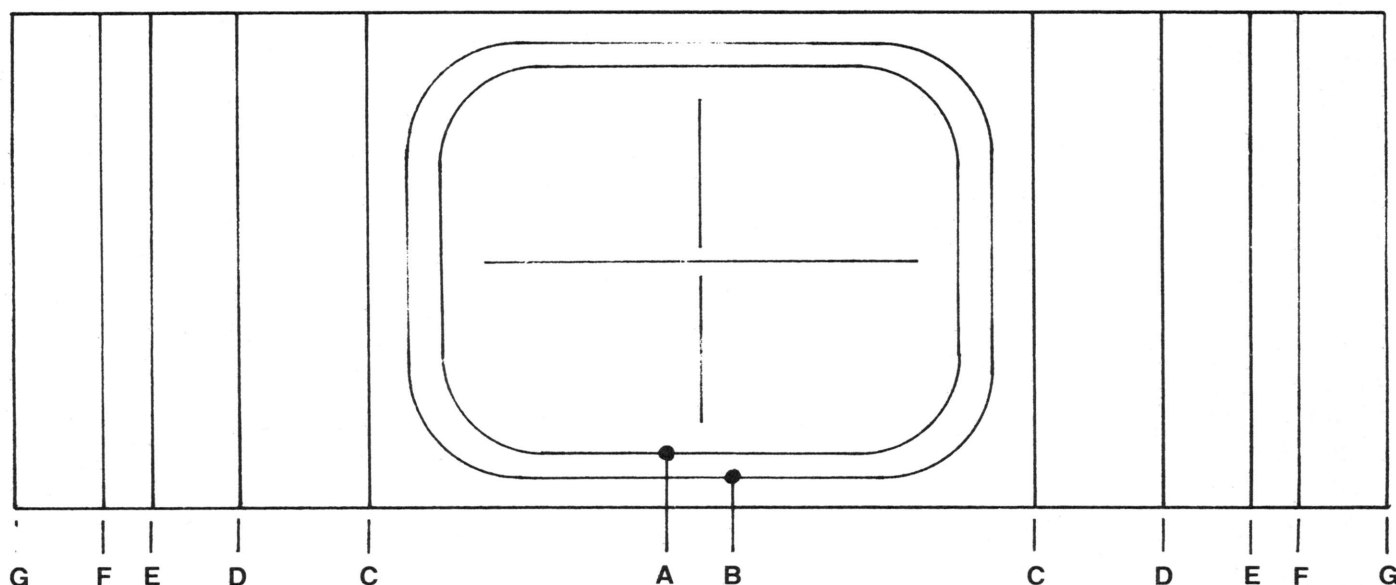
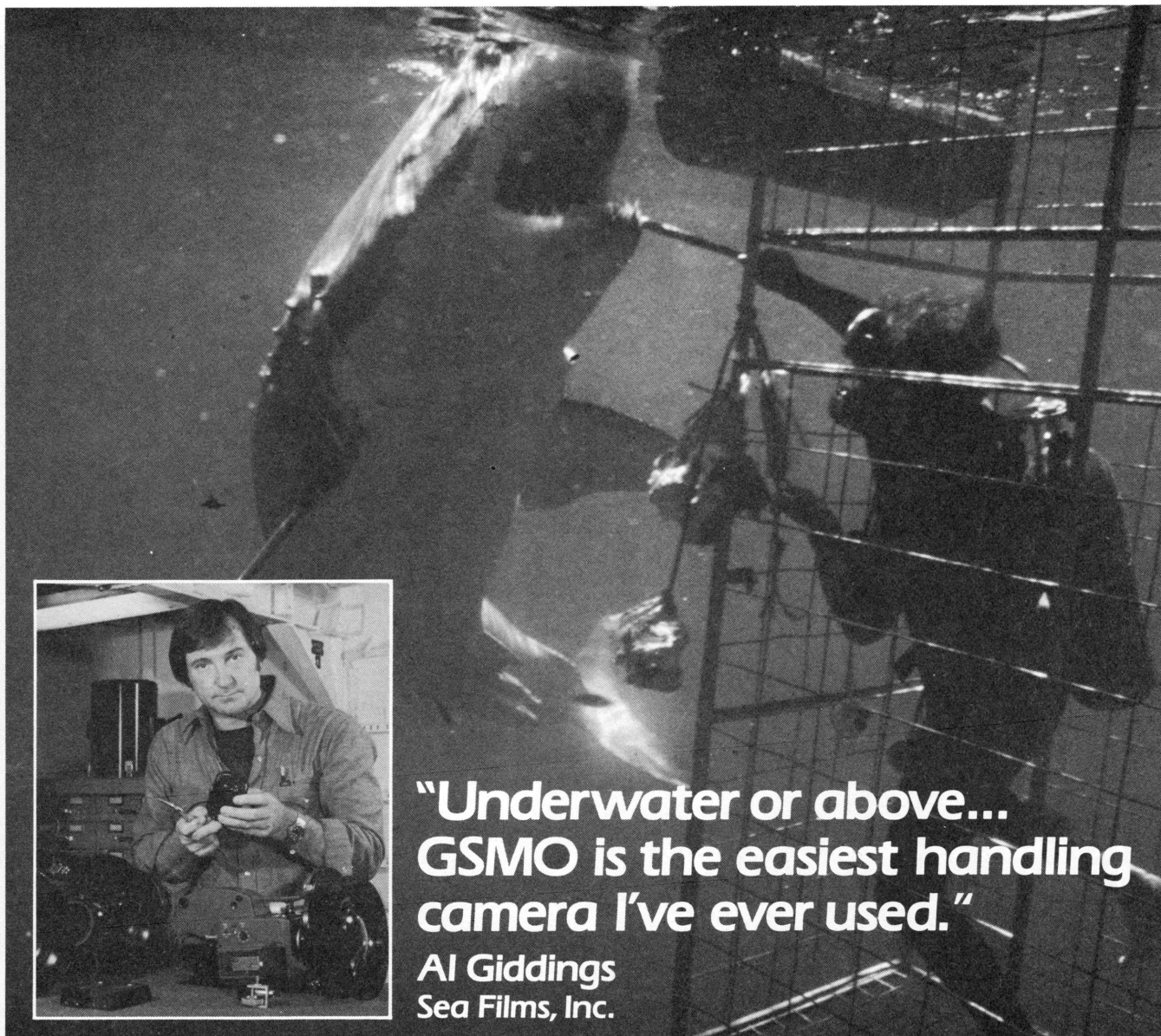


FIGURE 1 Relative Areas of TV and Theatrical Film Formats, Drawn to Scale

A—TV Safe Title Area
B—TV Safe Action Area

C—1.33:1 Projection Aperture
D—1.85:1 Projection Aperture
E—70mm Projection Aperture

F—Anamorphic (CinemaScope, Panavision)
Effective Projection Aperture
G—Ultra 70mm (1.25 squeeze) Effective Projection Aperture



**"Underwater or above...
GSMO is the easiest handling
camera I've ever used."**

**Al Giddings
Sea Films, Inc.**

"Cinema Products' GSMO is a superb camera. Ideal for the kind of work I specialize in—underwater cinematography. It is the most lightweight, low-profile, easiest handling camera I've ever used. Underwater or above!" says veteran cinematographer Al Giddings, famous for his underwater cinematography on *"The Deep"* and *"Dive to the Edge of Creation."* Most recently, his outstanding cinematography for *"Mysteries of the Sea"*—the two hour prime time ABC Television Network Special—earned him an Emmy Award.

A major portion of the underwater footage in *"Mysteries of the Sea"* was shot using two GSMO cameras, equipped with special underwater housings designed by Al Giddings and manufactured by Sea Films, Inc., his San Francisco-based company.

"Equipped with its special ultra-lightweight housing (approximately half the weight of conventional underwater systems) and fully-loaded 400' magazine, GSMO weighs a mere 8 ounces in the water," says Giddings. "Easily handled with one hand."

"At locations around the world, including the Indian Ocean, South Australia and California, approximately 65,000 feet of color negative was shot at speeds ranging from 12 to 64 fps. Although for the most part we used the GSMO cameras for underwater sequences, I've also used the GSMO for topside sync shooting with outstanding results," says Giddings.

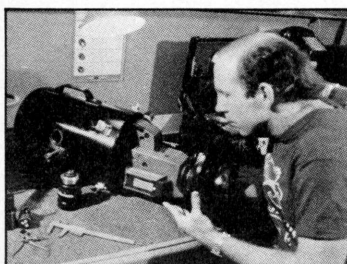
"Filming those dramatic 'high-voltage' shark sequences, we ran the two GSMO cameras at 64 fps consistently without a hitch. The quality of the images was superb. The cameras worked flawlessly. And I couldn't have been happier with the results!"

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WHO SHOT J.R.?

**Victor Duncan
knows**

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VILMOS ZSIGMOND, A.S.C.

on the filming of "Heaven's Gate":

"Working again with Michael Cimino in the filming of 'Heaven's Gate' was an even more exciting and demanding experience than shooting with him on 'The Deerhunter'. It was a production on a truly grand scale, involving a complexity of physical requirements and details that staggers the imagination.

There is no 'going by the book' on such a production. We had to innovate and create our own unique solutions and ways and means from beginning to end. It wasn't enough simply to convey the visualization of time and place and story; we wanted to give it the substance of reality . . . to make those who see the finished picture really *feel* the moods of stimulation or depression, the sense of comfort or discomfort, generated by the textures and character of surroundings and circumstance . . . to project all this and more with such visual force as to draw them into the buildings and rooms and streets and landscape more as participants than as viewers.

In many scenes lighting, of course, was an intensely critical factor in

trying to accomplish such subjective realism. Among other things, the street lights and interior lights of the time were of considerably different quality and character than today, and the ambiance of lighting contributed strongly to the flavor of the surroundings.

We obviously required lighting equipment of enormous flexibility and latitude to create the visually-stimulated sensations we wanted the viewer to experience, ranging from the harshest impact to the most subtle suggestion.

LTM's versatile HMI lights gave us that needed flexibility and latitude. From the little 200W up to the 4K's and soft lights, their excellent daylight quality is dependably consistent and, even on the tightest interior sets, they don't cause uncomfortable heat. With the great output and stability of these LTM's, one can bounce and modify and manipulate lighting with exquisite control, achieving marvelous effects of infinite subtleties that are, if not impossible, at least very difficult with other types of lights.

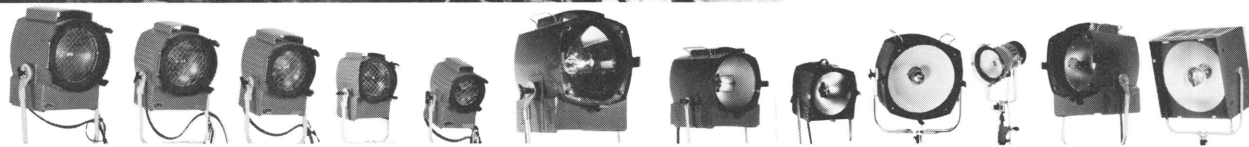
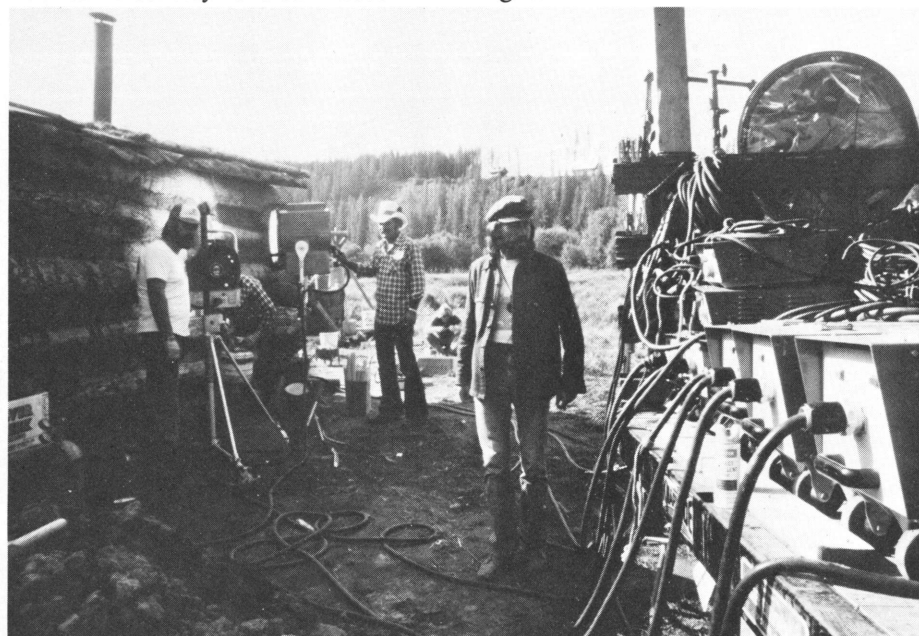
I first worked with LTM HMI's on 'The Rose' and 'The Deerhunter'. 'Heaven's Gate' was a much more demanding test of their capabilities, and I don't think I even yet have approached the limit of their creative potential."



Among the professional cinematographers of Hollywood, where excellence is the norm, one must possess extraordinary talent and skills to merit the special distinction earned by Vilmos Zsigmond.

Although holding a Master's degree in cinematography and being winner of both an American Academy Award for "Close Encounters of the Third Kind" and a British Academy Award for "The Deerhunter", Zsigmond is not at all impressed by his own accomplishments. He says, "Just look at how many really fantastic cinematographers there are in the world today . . . it's marvelous! One has to keep learning and trying to improve with each new picture, and the day will never come when I feel that I can't do better on the next production than I did on the last."

Having recently completed filming of Michael Cimino's "Heaven's Gate", Vilmos Zsigmond is, at this writing, in preparation for the upcoming production of Brian de Palma's "Personal Effects".



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TALKING TECHNICALLY

By DAVID W. SAMUELSON

SCREEN ILLUMINATION

Screen illumination is a subject very dear to the heart of many a lighting cameraman. How often has one seen prints which look beautiful in a laboratory viewing theatre, but are dim and dark or, conversely, over-lit and washed out in the local cinema? It is in all our interests to try to ensure that screens are properly and sufficiently illuminated, and if we don't take an interest and where necessary complain, who will?

Correct screen illumination is laid down in a number of British and International Standards, viz:

BS1404:1961, ISO2895. Screen luminance for the projection of 35mm film on matte and directional screens.

BS2954:1958, ISO2910—Recommendation for screen luminance for the projection of 16mm film.

BS2964:1958, ISO2895—screen luminance in cinematograph laboratory and studio review rooms.

BS4564:1970, ISO2910—screen luminance for the projection of 70mm film on directional screen.

An allied Standard is BS5382:1976 cinematograph screens.

These lay down the following conditions and method for measuring screen luminance:

The projector shall be running under normal operating conditions, with the lens or lenses focussed on the film plane with no film in the gate.

The light source and the optical system shall be aligned so that the area maximum luminance is at the centre of the screen. . .

See that the lighting in the auditorium shall be that normally used when the film is being projected.

The screen luminance shall be measured with a photometer having an acceptance angle not greater than 20° . . .

The luminance shall be measured from any seat in the auditorium at a height of 3ft. 6in. above the floor.

They state:

The luminance of the centre shall be not less than 8 foot-Lamberts and not more than 16 foot-Lamberts ($27-55\text{cdm}^2$).

The luminance of each side measured on the horizontal axis shall lie be-

tween the following values:

- (i) For non-anamorphic projection from 60% to 85%, and preferably as near as practicable to 70%, of the measured luminance of the centre.
- (ii) For anamorphic projection, from 50% to 75% of the measured luminance at the centre.

BS5550:Subsection 7.2.4:1978 "Screen luminance for the projection of 70mm film on directional screens". This Standard has been metricated and states that the luminance shall be equivalent to $80 + 20 - 15$ candelas per square metre ($23.4 + 5.8 - 4.4$ foot-Lamberts) which means that it is expected that a 70mm screen shall be considerably brighter than a 35 or 16mm.

BS2954:1958—screen luminance for cinematograph laboratory and studio review rooms, states that for 35mm projection the illumination shall be 11 ± 1 foot-Lamberts ($37.5 \pm 3.5\text{cd/m}^2$) and for 16mm shall be 10 ± 1 foot-Lamberts ($34.4 \pm 3.5\text{cd/sq. metre}$).

The Focal Press Encyclopaedia of Cinematography in an entry written by Bernard Happe gives the following definitions for the various light measuring units, viz:

ILLUMINATION

The illumination of a surface may be regarded as the incident light coming from a source of given power at a given distance: the illumination from the source of one candela at a distance of 1 ft. is known as a *foot candle* or one *lumen* per square foot, and both terms are employed in the measurement of illumination for photography. The metric unit is one lumen per square metre (or metre-candle), termed the *lux*.

1 ft.-candle = 1 lumen per square foot = 10.76 lux.

A unit for very high levels of illumination is the *phot*, which is one lumen per square centimeter, or 10,000 lux. The milli-phot is very close to the foot candle: 1 foot candle = 1.076 milli-phot.

BRIGHTNESS

The brightness or illuminance of a source represents its light output per unit area: the brightness or illuminance of a surface similarly represents the light intensity which it reflects per unit area. There are several units, of which the preferred international metric one is the *nit*, representing a brightness of one *candela* per square metre. There is also a *foot-*

Lambert, which is the luminance of a perfectly diffusing surface emitting or reflecting one *lumen* per square foot. Both these units are employed in measuring the brightness of cinema screens, and maybe converted as: 1 nit = 0.292 foot-Lamberts. 1 foot-Lambert = 3.42 nits.

For brighter sources, 1 candela per square centimeter is termed 1 *stilb* (= 10,000 nits), and an ideal diffuser emitting 1 lumen per square metre has a luminance of one *apostilb*.

Since an ideal diffuser of one candela per unit area emits π lumens per unit area, 1 candela per square foot = 3.14 foot-Lamberts, and 1 candela per square metre = 1 nit = 3.14 *apostilbs*.

A directional reflecting surface such as a beaded cinema screen, may show a greater luminance from some directions than a perfectly diffusing surface: the ratio of actual luminance to that of an equivalently illuminated perfect diffuser is termed illuminance factor. However, a gain or luminance factor much greater than unity in one direction is always offset by factors less than unity when the screen is viewed from other directions.

The Focal Press Encyclopaedia Film & Television Techniques also has some very interesting information on screen brightness as well as light and optics which are pertinent to the subject and worth reading by anyone who is seriously interested.

So it seems that we all need nit metres and certainly every Oscar-aspiring Director of Photography should know his nits from his stilbs and not get muddled up with his apostilbs.

It struck me that it would be very useful if we could use our ordinary exposure metres to measure screen illuminance, especially as most of us have Spot Meters or Gossen Lunar-6 or similar meters on to which a narrow angle attachment may be fitted to take in as near possible just the two-degree cone of light as recommended in the Standard.

So at Photokina with this article in mind I asked Gossen if they could supply me with a conversion table to use a photographic exposure metre as a foot-Lambert metre, and bless them, they had the necessary right there on the stand.

Gossen exposure metres, you will find, are calibrated in Exposure Values, as well as so much stop for so much time for so much film speed, but you can use either viz:

4 foot-Lamberts (14cd/m^2) = EV7

Continued on Page 1194

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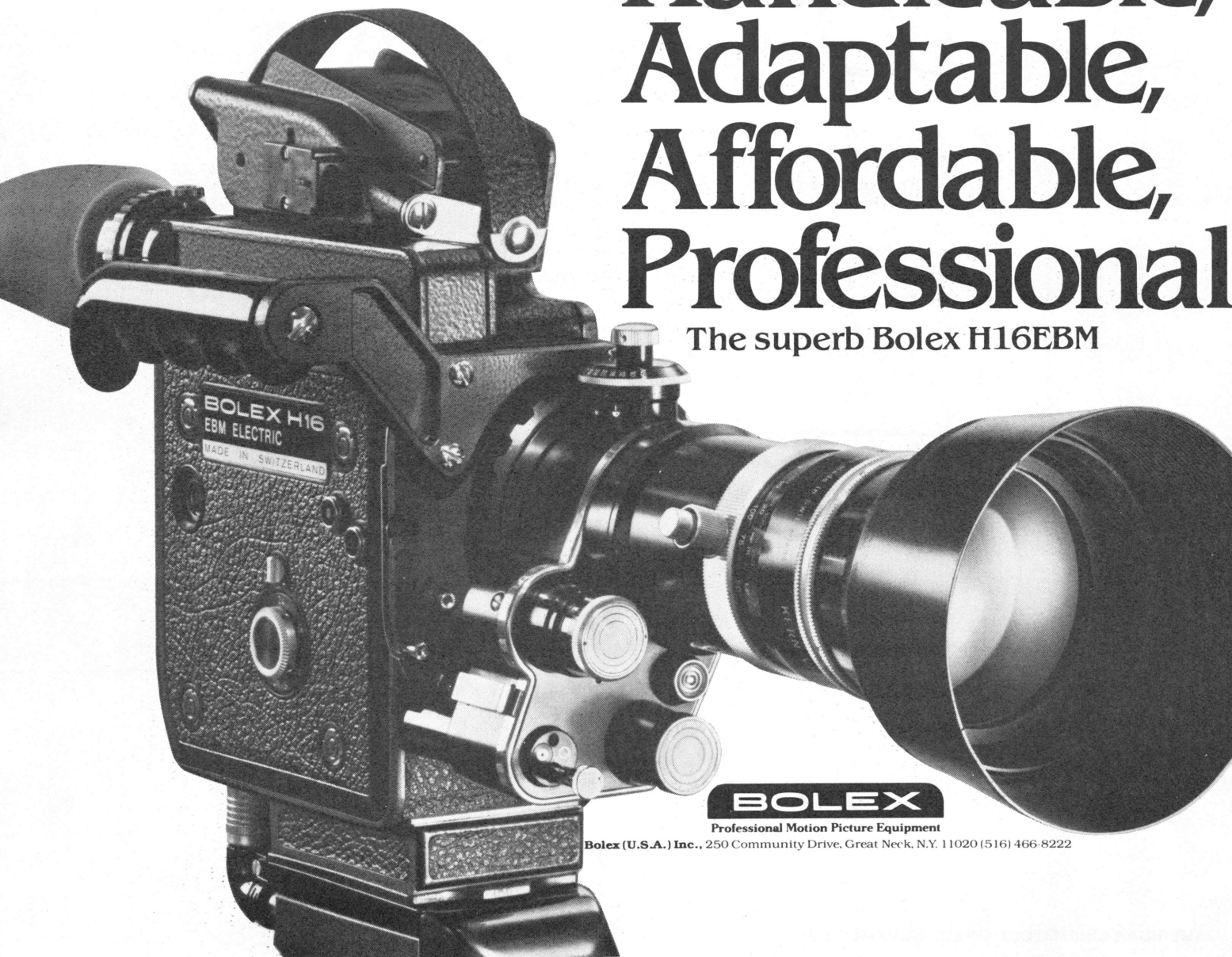
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ON LOCATION WITH "HEAVEN'S GATE"

American Cinematographer Editor journeys to the wilds of Montana and is put to work behind the camera on a spectacular epic film

By HERB A. LIGHTMAN

KALISPELL, MONTANA

From Los Angeles it isn't easy to get to this town of 13,000 souls. You have to take three different airplanes and touch down in half-a-dozen towns before you arrive at the local airstrip. But when I arrive there is a van awaiting me with the legend "HEAVEN'S GATE" on the side and Producer Joann Carelli inside.

I have been invited here by Director Michael Cimino, who also wrote the screenplay for this epic, which some de-

scribe as "the biggest Western ever made". The appellation is not correct. It is not a Western in the "cowboys and Indians" sense, although there is a cattle owners' association involved and the action does indeed take place in the West at the turn of the century. It is a highly dramatic story of human relationships and is based on a true incident, the westward movement of immigrants seeking homesteads and their bloody clash with mercenaries hired by the cattlemen who

have laid claim to the land. That conflict is known in history as the Johnson County War.

As for my invitation to the location—it came as a surprise, because I knew that, for "security" reasons, no one from the Press had been permitted anywhere near where the company was shooting (although a disgruntled local extra wrote a none-too-complimentary piece which appeared in the *Calendar* section of the *Los Angeles Times*). However, I also know that Michael Cimino, Director of Photography Vilmos Zsigmond, ASC, and the other crew members do not regard me as "Press", but rather as a fellow film technician who just happened to have been dragooned into editing *American Cinematographer*.

At any rate, on arrival in beautiful downtown Kalispell I check in where the entire crew and cast (including the stars) are staying. The Outlaw Inn is a huge and surprisingly resplendent hostelry, complete with swimming pools, Jacuzzis, saunas, a disco and all the comforts of home. It is lavishly decorated with American cowboy art to remind those passing through that this is indeed genuine cow country.

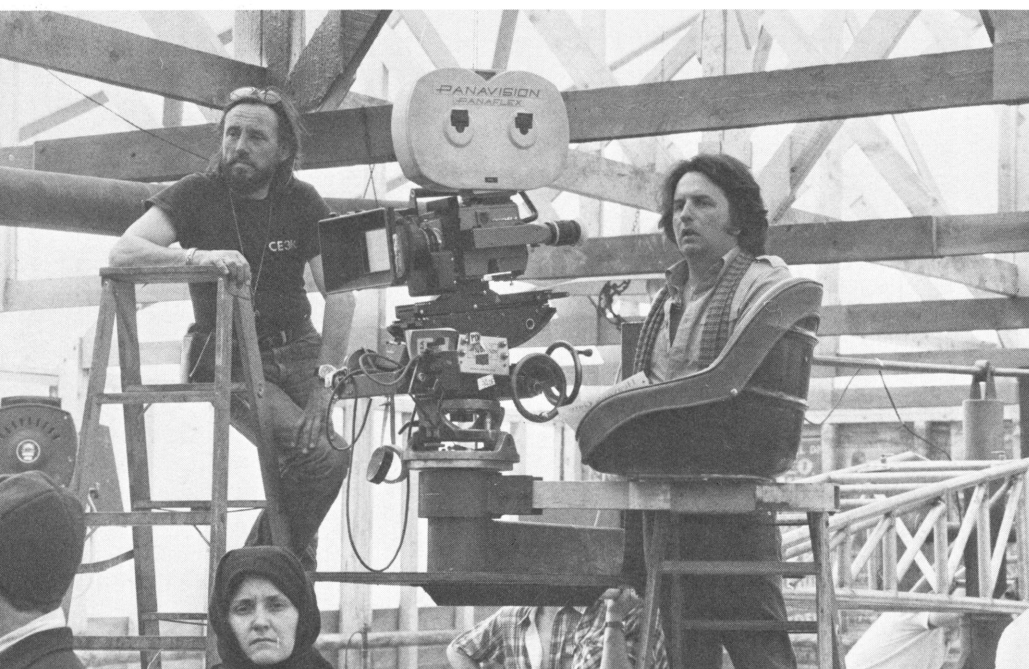
The HEAVEN'S GATE company, I am told, is filming at a location two-and-a-half hours' journey north (over rough logging roads) in an area just below the Canadian border and on the outskirts of Glacier National Park. Once I have checked in, it is too late to join them, but when they come dragging in later, dog-tired after a long day's journey into night, there is a warm reunion with Michael, Vilmos and others in the cast and crew whom I know.

Vilmos looks like he has lost at least 20 pounds—and, as it turns out, he has—and the strain of six months of 14-hour shooting days is beginning to tell on him, but his usual warm and exuberant spirit is still intact.

We eat dinner in the hotel restaurant adjoining the disco, which, since it is Saturday night, is bulging with cowboys in ten-gallon hats and boots, tearing it up with their ladies to the music of a Western band called *The Gunslingers*. It is almost like in the movies.

Vilmos tells me, "We're starting to shoot the big battle sequence. We're going to use six cameras and we're short an operator. Would you like to run one of the cameras?"

Continued on Page 1166



For the author, joining the HEAVEN'S GATE company on location meant a reunion with two old and much-admired friends: Director of Photography Vilmos Zsigmond, ASC, and Screenwriter/Director Michael Cimino. (BELOW) In a meadow adjacent to Glacier National Park, the crew lays dolly track outside the cabin of a character named Champion, played by Christopher Walken.





(ABOVE) *American Cinematographer* Editor Herb Lightman takes his position behind the camera to help film the climactic battle sequence for *HEAVEN'S GATE*. In the background can be seen another camera covering a higher angle. (LEFT) Perched on a ladder to film another battle scene, Lightman wears a face mask in an effort to avoid choking on the dust created by dumping tons of Fullers earth on the ground. In the background is Assistant Cameraman Mike Gershman.



(LEFT) Two cameras are set up at low angles to film the battle sequence. Usually as many as six cameras were used to capture this action. (RIGHT) The "Little Big Crane" is rigged for a tracking shot that will go with the actors into the building at right. (BELOW) In the full fury of the battle action, and totally unprotected from flying hooves and exploding debris, a camera crew (far right) captures spectacular action on film.



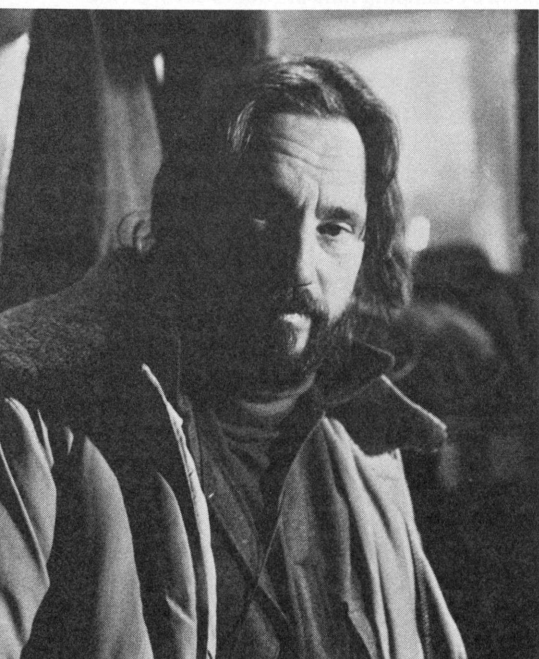
BEHIND THE CAMERAS ON "HEAVEN'S GATE"

By **VILMOS ZSIGMOND, ASC**

Director of Photography

The challenge; to bring this historical epic out of the Western genre, in the photographic sense, and give it a different look

While we were in the last stages of working on *THE DEER HUNTER*, Michael Cimino mentioned the next picture that he was going to do, *HEAVEN'S GATE*. I got the impression that it was going to be a Western, but I didn't realize until we started to get into pre-production that this picture cannot really be regarded as just a Western. It is actually a historical piece, an epic. It resembles a David Lean film, in the tradition of *DOCTOR ZHIVAGO* and *LAWRENCE OF ARABIA*. That's the kind of film Michael Cimino wanted to make.



He selected a historical event which took place at the end of the 19th century and which might not be very important in terms of American history, but the way Michael put it on the screen, it sure looks important.

HEAVEN'S GATE is the story of the conflict between the Immigrants, who, in those days, came into the West by the thousands, and members of the cattle owner's association of Wyoming, who owned all of the land around. They meet head-on in a battle that later came to be known as the Johnson County War. This film, in its dimensions, is closer to *GONE WITH THE WIND* than it is to *HIGH NOON* or any of the other classic Westerns.

As a cinematographer I was given the great challenge of bringing this film out of the genre of the usual Western in the photographic sense, because Michael wanted it to have a different look. Aside from such creative factors as lighting and composition, we arrived at that different look by flashing not only the negative, but the prints, as well. Our aim is to have a low-contrast, pastel and sort of sepia-tone image all the way through the picture. It reminds you a little bit of old color photography. It has all the lighting elements of black and white pictures, but with color very carefully added to create a romantic, nostalgic mood. The Technicolor lab, under the supervision of Skip Nicholson, did a beautiful job of getting the effect that we wanted.

Most of the picture was shot in

Montana and the scenery was fantastic. We worked in both the eastern and western areas of Glacier National Park, and the scope of those mountains and glaciers is endless. We started shooting in early Spring when the mountains were full of snow and we tried to show this as much as we could. Michael Cimino was very helpful in selecting the proper times of day for us to shoot our big scenes.

The interiors were also built on location and it was originally thought that we would use them as cover sets, but when we arrived in Montana there was too much snow on the mountains to start our exterior shooting. We knew that when it melted the scenes that followed would not match, so we were forced to use up most of our interiors during the first couple of months of shooting.

The interiors were built after researching photographs of buildings that actually existed in that area at the end of the 19th century. Michael selected lots of photographs and from those photographs came the look of the exteriors and interiors of our sets.

In thinking about the photographic style of the film, after reading the script, an earlier picture of mine came to my mind—not to copy, but simply as a starting point. It was *McCABE AND MRS. MILLER*, which took place around the same period of history, the end of the 19th century. But I didn't want to use very diffused or hazy images because I would just be duplicating myself, and I don't really have fun shooting another picture in the same style. So, in talking with Michael, we decided that we could have the same *feeling* as *McCABE AND MRS. MILLER*, but a totally different look. Instead of creating the fuzziness and haziness of *McCABE* (which was done by using heavy filtration and heavy flashing), we toned the flashing and the fogging down and added existing smoke effects to the atmosphere. In the old photographs of those days the interiors were always hazy and smokey, because those old wood stoves gave off lots of smoke, no matter how good the chimney system was. (I remember that during my childhood in Hungary I practically grew up in smoke.) So we tried to create an interesting effect by using real smoke.

Most of the time we used the sun as a light source, with its rays shining through the smoke near the windows, just as they appear to do in the old paintings and photographs. It was really fun to light sequences with the smoke because you

(ABOVE LEFT) Academy Award-winning cinematographer Vilmos Zsigmond, ASC, sought a distinctive visual style for *HEAVEN'S GATE*, a look that would capture the atmosphere of the time (late 1800s) and place (rural Wyoming). (BELOW) sets are constructed for the film, including (far right) the Heaven's Gate Roller Skating Rink, from which the epic feature takes its name.



have to handle the images as if you were shooting in black and white. The haziness caused by the smoke cuts into the colors and you have to create balance with light areas and dark areas.

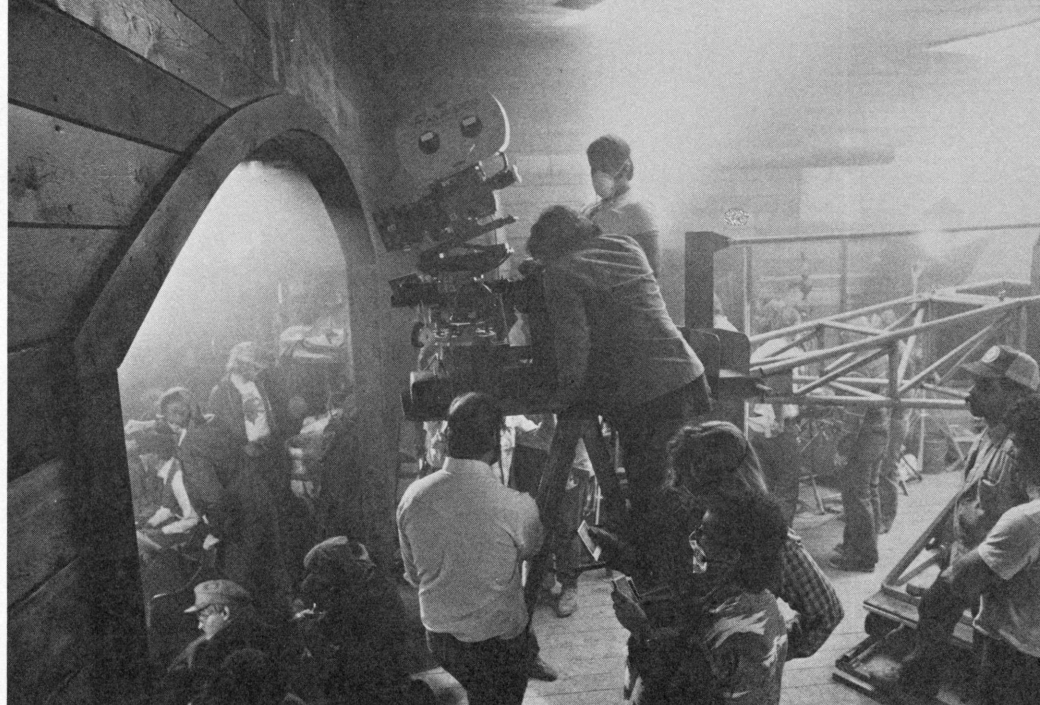
It was difficult to maintain the consistency of the smoke, but our special effects crew did a very, very good job of it. However, many times we were subject to drifts inside of a structure on location because the wind was blowing outside and it just came right through the cracks of the building. This would change the level of the smoke, so that we really had a hard time matching its density from one scene to another. The only way to judge smoke is by eye—just by looking at it through the camera and deciding when the level was the same as that of the previous take. Then we would start to shoot, but we still had to keep smoking up the set during takes, because if you didn't the smoke would disappear. This meant hiding smokers around the set in order to fill in the smoke.

Another hazard of the smoke treatment was that if I used lights near the frame-line, I would sometimes get unwanted rays of light. Since I believe in realism in lighting, I couldn't let this happen. I would sometimes have to "invent" a light source—like placing a lantern in the scene, so that I could justify the light rays.

We were shooting in the anamorphic format, with its 2.33:1 aspect ratio, and that wide-screen format really lends itself to nice compositions. Since we were also shooting a historical piece, we made a very definite effort to compose scenes which resembled paintings. There were lots of people involved and Michael would fill in the compositions with many fascinating characters and select interesting practical light sources. So we really tried to "paint" this picture as much as we could.

The exteriors were much more difficult to shoot, because once we had selected smokey interiors as part of the visual style of the picture, we felt that we couldn't just go sharp on the exteriors. So dust became our "smoke" equipment outdoors. We brought up at least 200,000 tons of Fullers earth for the exteriors, which meant that every single time we had horses or wagons running by we laid dust on the ground to create beautiful clouds of the stuff behind them. The enormous problem in every single shot was to outguess the wind, both in direction and intensity. We had to add just from outside the frame and usually from each side of the frame, because the wind changed direction a lot.

HEAVEN'S GATE started out to be an 11-million-dollar picture, but after we were two months into the production we realized that we hadn't completed half of



Crew members wearing masks to alleviate the effect of the chemical smoke used in all of the interior sequences of the film prepare to shoot a crane shot inside the Two Oceans Saloon. Maintaining the consistency of the smoke level from set-up to set-up was a major problem, but the skilled special effects crew handled it very well.

the schedule. We had really enjoyed shooting the first part of the picture because we took lots of time and Michael really cared about everything, but the moment came when the studio would not go along anymore with that kind of picture-making and we had to agree to a very rough schedule. We had to actually finish the picture in half the time that we had devoted to the first part and that put tremendous pressure on everyone. We were determined to maintain the quality of the picture 100%, but that meant many long working days and lots of hard work for everybody on the crew.

Here I would like to mention that we had a tremendous crew on this movie. All departments functioned so perfectly that I can say that I have never before been on

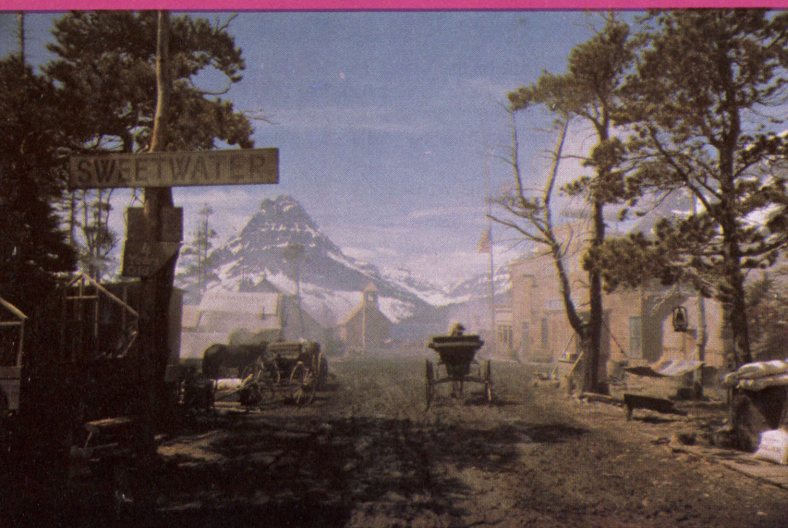
a picture where you could find so many top professional technicians working toward the same goal—that of making a great picture. My camera crew probably worked the hardest, because in many, many scenes it was so hard to create the environment—the dust and so forth—that we tried to set up as many cameras as possible. We usually brought out all of the cameras we had and many times we had to set some of them up without an operator, because we really didn't have enough operators to handle all of the cameras. We had hired three or four extra operators, but we were running five or six cameras in many cases, so we had to set them up, lock them down and hope that the composition would stay alright. That's not the way I like to make movies

The town of Wallace, Idaho, with only a few low buildings, was transformed into Casper, Wyoming of the 1890s by erecting multi-storied false fronts and dumping tons of dirt on the paved streets. Telephone poles of the period also had to be installed. Authentic facades were constructed based on photographs taken in the area during that period.





(LEFT) Much of the exterior filming for *HEAVEN'S GATE* was done at the Magic Hour, that short period of twilight between dusk and night. Crews have to work fast to capture the fleeting moment, as in this scene with Christopher Walken and Isabel Huppert. (RIGHT) Another Magic Hour shot—this time at Oxford University under the big tree the film company placed there. (BELOW LEFT) Kris Kristofferson riding into the town of Sweetwater for the first time. (RIGHT) Kristofferson doing his own stunt. An unscheduled accident in which the horse fell on top of him was left in the film.



but I had to take chances, just as Michael Cimino did. We were hoping that some of those remote cameras would be catching a more interesting angle by accident. Stunts especially have a tendency to happen too fast to judge during shooting. The right way to do it, of course, would have been to have six or seven cameras, with an operator behind each camera, but no budget of any film could afford that. As it was, our budget of 11 million dollars had risen to 20 million dollars.

The special effects department really put in a tremendous effort on this picture. They were working day and night for months to replace bullet hits in sets and clothing, explosions, smoke and you name it. The whole picture is full of their work and they did a tremendous job without which we could not have come up with the special look that our picture has. I cannot take sole responsibility for that look, because there are lots of crew members' sweat attached to it.

The wranglers and the stuntmen did a really terrific job. The wranglers were the ones who had to get up at three in the morning sometimes to bring horses to the

set and have them ready for a five or six o'clock call. We never had to wait for them; they were always ready and their expertise helped Michael to create all those exciting images in the warfare sequences, where you see horses going wild and running away and things like that—all of which added a great degree of excitement to those sequences. It was in the filming of those sequences especially that we used all of our cameras because we didn't want to have any parts of those stunts getting lost because our cameras did not cover the right angle or were in the wrong position. *American Cinematographer* Editor Herb Lightman, a former cameraman, helped us out many times by operating a camera when he was visiting us and he captured some shots which are going to end up in the picture. I appreciated his help because otherwise that camera would have been a remote camera. Obviously I like to have somebody looking through the camera to make a little adjustment if necessary or, if nothing else, just to tell me at the end of a take how good it was.

I love to shoot exteriors. Outdoor

cinematography offers tremendous challenges for a cameraman because it is always changing. The sun is always moving. You start in the morning with the sun in the east, but when you finish in the afternoon or evening it's in the west—and you are still shooting the same sequence. You really have to get around the problem of matching and that's a hard thing to do. It's not only that you have to match the direction of the light, but you have to match the intensity of the light source. If the sun becomes hazy you have to correct for it. If you lose the sun you have to bring in Brutes or HMI lights to recreate the sunlight. It's a terrific challenge. For example, what happens when you are shooting a master scene that is six or eight minutes long and the sun is going in and out of the clouds? We had to contend with that a lot on this picture. All of the assistant cameramen had to be on guard when the light changed because we had to change our f-stops in order to maintain the right exposure. Of course, we didn't try to hide the fact that the sun went behind a cloud, so we only corrected half of the stops we should have



(LEFT) Camera Operator Jan Kiesser executes a difficult hand-held shot from the seat of a horse-drawn buggy. (RIGHT) HMI lights under shielding shades during rain at Champion's cabin. Except for two Brute arcs, HMI units were used exclusively to light the interiors. Zsigmond found HMI lights to be very convenient for big interiors because they do not require filtration; they hold a very accurate color temperature of 5500° Kelvin. In this case they aided the cinematographer in producing shafts of light clearly visible through the smoke.



for an overall exposure. Actually I like the idea that the audience can see the lighting change within the scene, so if the sun goes behind a cloud the exposure should drop between one-half and one stop as the picture visibly darkens. Then you go back to a full exposure when the sun comes out again. That's a nice way to go into a long sequence and establish the changing light situation. If you do that a couple of times the audience will accept it as part of the realism.

I usually like to shoot on overcast days and in the past on my pictures, whenever I could, I would elect to shoot in overcast or wait until a cloud would cover the sun, because it is so simple to work under those conditions. The matching is so easy because you are dealing with soft light on the faces and it's usually flatter-

ing to the actors. But our style in this picture required the sunshine, maybe because old paintings and photographs of the West are always sunny. Painters love to work in sunlight and photographers of that period had to work in sunlight because they had to have lots of exposure for the slow film they were using. To recreate the look of those old photographs we decided that whenever we could we would use sunlight. Also, because I was flashing the negative, using lots of fog, lots of smoke and lots of dust, the sunlight was necessary for the creation of light rays. We were very lucky in that this was probably the sunniest half-year in Montana history. Usually they have lots of overcast days, lots of rain and lots of snow.

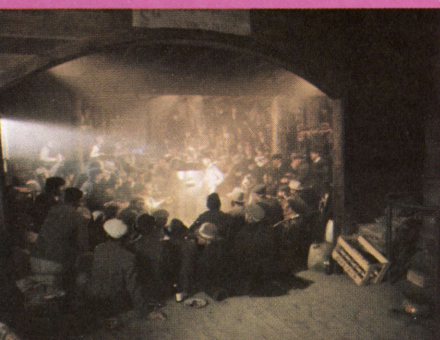
Whenever we could we elected to

shoot most of the masters in backlight, because backlight is probably the easiest way to work in a sunny situation and achieve the look that you want. It helped us to light the dust and the smoke, which shows up in backlight more than it shows up in flat light. Those dusty and smokey scenes really made magic in our dailies. The effect is very romantic, very real, very magical.

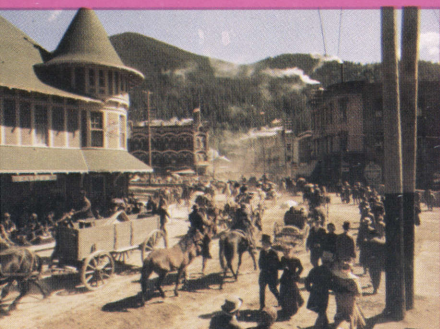
However, it was very difficult for crew members to work under the conditions of smoke and dust that were necessary. They were forced to work in interiors that were kept smokey eight hours a day and modern technology still hasn't come up with a means of providing "clean smoke". We tried to use masks (only crew members can do that; the actors obviously

Continued on Page 1164

(LEFT) A cockfight in progress at the Two Oceans Saloon. (CENTER) Jeff Bridges, playing role of the proprietor of the Two Oceans Saloon, officiates during the cockfight. (RIGHT) The immigrants' crowded quarters at the Two Oceans Hotel. There are no studio scenes in HEAVEN'S GATE. A few actual interiors, authentic to the period, were used as sets, but interiors such as the Two Oceans Hotel and Saloon were constructed almost in the downtown area of Kalispell, Montana. Several were duplicated, as well, on the actual location sites.



(LEFT) The railroad station in Wallace, Idaho (left) was the only existing building of the correct period that could remain unchanged during the extensive reconstruction that took place to transform the town into Casper, Wyoming of the 1890s. (CENTER) The existence of a railroad line of the proper gauge in close proximity to the town led to the selection of Wallace as a major filming site. (RIGHT) A meeting of the cattlemen's association shot inside a historic building in Kalispell, Montana.



THE FILM THAT TOOK ON A LIFE OF ITS OWN

HEAVEN'S GATE screenwriter/director Michael Cimino talks about the challenge of bringing to the screen a vision bigger than all outdoors

Michael Cimino's *HEAVEN'S GATE*, a shattering drama of the American West, was written and directed by Academy Award-winner Michael Cimino and produced by Joann Carelli, for United Artists release. The film is Cimino's first since receiving the Academy Award as Best Director for his widely-acclaimed Vietnam epic, *THE DEER HUNTER*. Previously, Cimino made his directorial debut with *THUNDERBOLT AND LIGHT-FOOT*, starring Clint Eastwood and also for release by United Artists.

The following interview took place at MGM Studios during the final post-production phases of *HEAVEN'S GATE* and was conducted by *American Cinematographer* Editor Herb Lightman, who had been on location with the company during the Montana phase of its shooting and who had indeed functioned while there as a guest camera operator on the climactic battle sequence. In this interview Cimino deals not only with the many concrete problems involved in bringing his epic to the screen, but he also delves into the philosophical and even metaphysical elements which were pervasive factors during the filming.

QUESTION: What would you say was your most difficult problem in the making of a film as complex as *HEAVEN'S GATE*?

CIMINO: *Certainly one of the most difficult problems was assembling enough craftsmen in each of the production categories. For example, I believe that at one time we had four construction crews working—two in Montana (one on the east side of the Continental Divide, the other on the west side, both in mountainous terrain), another crew in Denver (rebuilding the train that ultimately was shipped to Montana and Idaho), and a fourth and largest crew in Wallace, Idaho, building the largest set, the city of Casper. In addition there were the wranglers (which, at our peak, numbered 80 or 90) and 40-odd stunt people, plus the regular production crew. I think the total numbered approximately 400.*

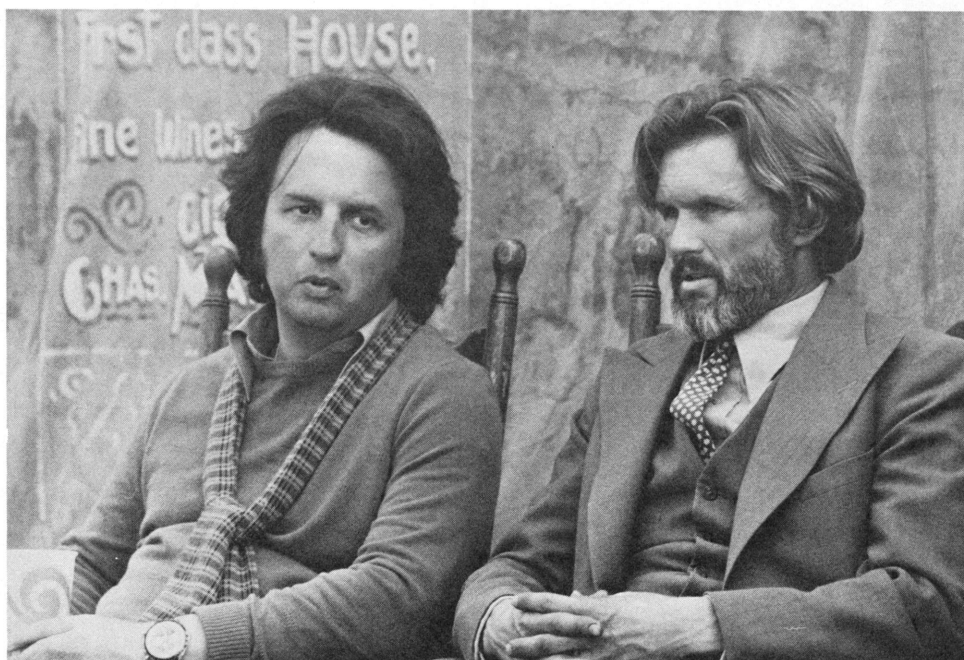
COMMENT: It must have been difficult, but obviously you did manage to collect the people with the skills you needed.

CIMINO: *We had formidable problems in finding so many gifted and competent*

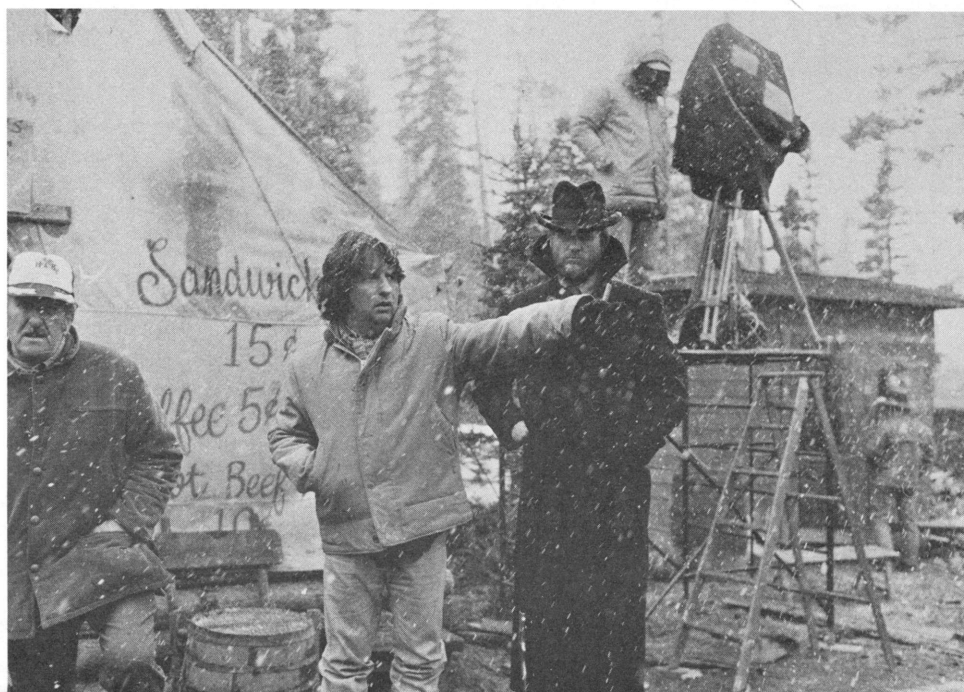
people, especially when it came to certain skills in the areas that have not been active for a while—wheelwrights, saddlemakers, people who can build wagons. The numbers of those craftsmen are diminishing and they are also dispersing. They are really not concentrated in the Hollywood area. The problem is kind of endemic to the new Hollywood—even in other genres, such as science-fiction and special effects. Filmmakers are always faced with the prospect of having to take people out of retirement to do certain things—to make glass shots, to do special process work,

*to pull off certain special effects. We had two wranglers who had driven chariots in *BEN HUR* doing some of our riskier stunt driving and they had actually been in semi-retirement. So the problem was not unique to our film. Rather, it seems to be one that is chronic to films made in America in general. Hopefully—as seems to have happened in the field of special effects—we can look forward to some sort of revival of those crafts that have been deteriorating for a while.*

QUESTION: What do you think might be done to help that along?



Screenwriter/director Michael Cimino with *HEAVEN'S GATE* star Kris Kristofferson. (BELOW) Oblivious of the snow falling around him, Cimino gives direction to an actor on Montana location. A relentless perfectionist, Cimino sets a grueling pace on the set, but drives himself harder than anybody. Two years ago he won the "Best Director" Oscar for *THE DEER HUNTER*.



CIMINO: I would say that what needs to happen is for more young people to come into the various craft categories and begin to develop those skills which take ten years to really get good at.

QUESTION: Could you comment a bit more on the mix of people that you did manage to assemble to work on **HEAVEN'S GATE**?

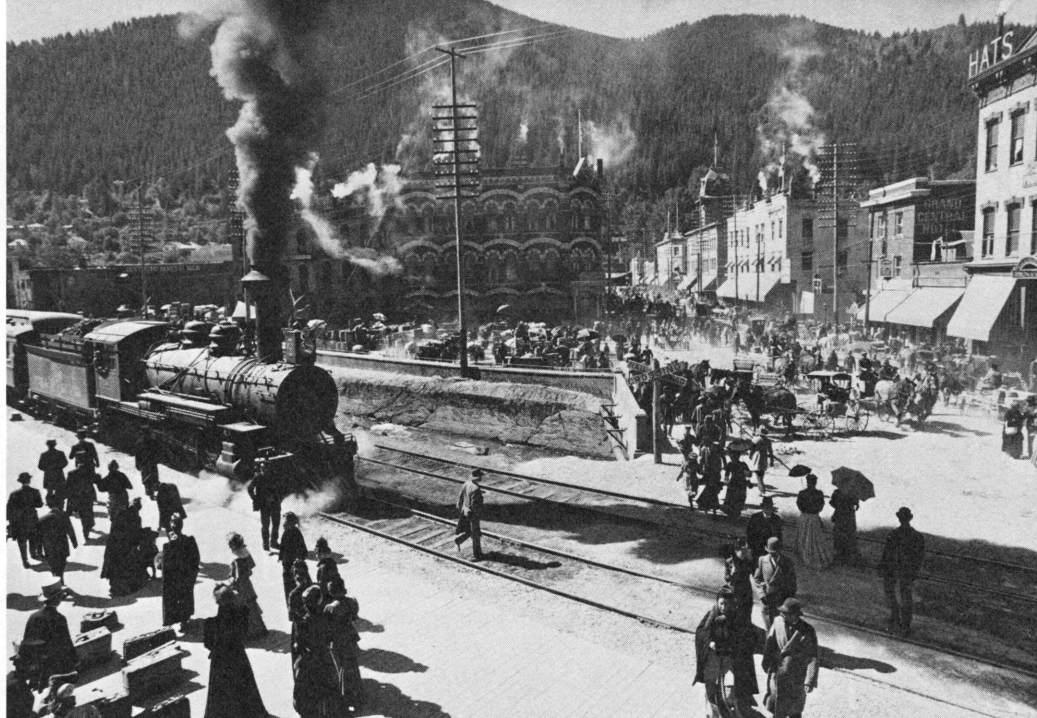
CIMINO: I would say that in general we had a remarkable crew. It was an interesting crew. It was basically a very young crew, but it was nicely balanced with older, more experienced men. The stamina of the crew, I thought, was absolutely remarkable. Not only the stamina, but the spirit. I felt that the crew was behind the effort, very much a part of the effort and that they took a great deal of pride in their work and in what we were trying to do. In that sense, there was kind of a great communion of spirit on the picture and, as you know, that's pretty rare. It was especially remarkable because of the conditions of shooting. Five hours of travel each day on logging roads and the 20-hour days, day in and day out, were exhausting, and that spirit extended to the extras, as well. (We can't really call them "extras". That's an awful word. We need to find a new name.) They were really part of the cast. All of the local people who worked for us exhibited the same stamina, the same caring as the crew and, on that level, they were very, very special. It was a very special experience, I think, to keep hundreds of people "up" and enthusiastic for as long as it took to make this film.

QUESTION: Critics and serious film students will inevitably compare **HEAVEN'S GATE** to **THE DEER HUNTER**, which is not fair at all—but what would you say were the basic stylistic differences between the two films?

CIMINO: The singular and most obvious difference is the size of the cast. I don't mean the number of people in crowds, but the size of the principal cast. There are simply a lot of characters in this film and there are a lot of layers to the story. The relationships of the people are rather passionate and intense.

QUESTION: What do you consider to be the basic theme of **HEAVEN'S GATE**?

CIMINO: Quite possibly what the film is about as much as anything else is "class". In a lot of ways I think that class is emerging as a dominant theme in the film. It may be more apparent to me now



In a massive project of reconstruction, the six-block-long main street of Wallace, Idaho was transformed into 1890 Caster, Wyoming. Parking meters were removed and facades were built around existing stores. (BELOW) Hundreds of horses and buggies and almost 1,000 extras, all in period costume, were used in staging this complex sequence.

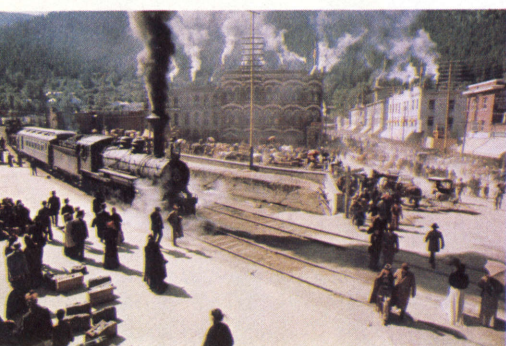


that we are finishing up on post-production and it may be even more evident in the final result, but it seems to be true. In **THE DEER HUNTER** there were certain things that emerged in a more dominant way than others as one actually made the film, and in the editing they became even stronger. The same thing is happening here. There are many more elements to work with and the story covers a greater span of time. It begins in the East, Harvard University in 1870, which is the subject of the prologue of the film. The body of the film is set in the 1890s—Montana, Idaho, Wyoming. The

epilogue of the film moves forward again to 1900 in Newport, Rhode Island. So one is dealing with 30 years, and when taking a character through that span of time, we are obviously dealing with more elements, more relationships. In those areas there are differences between **THE DEER HUNTER** and **HEAVEN'S GATE**, but I don't think that one consciously lists the formal, dramatic differences of a new project. At least, I don't perceive that way. I generally perceive in a more intuitive, obsessive way. The film reveals things to you as you go along, rather than you revealing things about it.



(LEFT) Three cameras are in position for filming inside the Heaven's Gate Roller Skating Rink, a key locale of the film. (RIGHT) Immigrants meet inside the rink to find out if they are on the list which the cattleman have drawn up for extermination. (BELOW) Scores of extras, almost all of them local citizens of Kalispell, Montana, cut fancy figures on their roller skates. Some had to be taught to skate and they practiced for weeks. Classes were also held in such frontier skills as bullwhipping, horseback riding, wagon driving and waltzing.



(LEFT) Train pulls into the Casper, Wyoming (Wallace, Idaho) station. (CENTER) A crowd at the station awaits the arrival of the train. (RIGHT) Isabelle Huppert and Kris Kristofferson get ready to leave for the local bordello, "The Hog Ranch", where she works. (BELOW LEFT) A daylight shot inside the Two Oceans Saloon. This set was built on the edge of Kalispell, with mountains in the background. The atmosphere was created with Brutes, HMI lights and smoke. (CENTER) Jeff Bridges and Kris Kristofferson play a scene together. (RIGHT) The town council mounts a stairway at the Two Oceans Hotel.



I think it works the other way around; it teaches you. At a certain point it absolutely takes on a life of its own, an energy of its own, a momentum of its own.

QUESTION: What would you say were the dramatically potential elements of the 1890s, the period of the main action of this film, the action we were shooting in Montana?

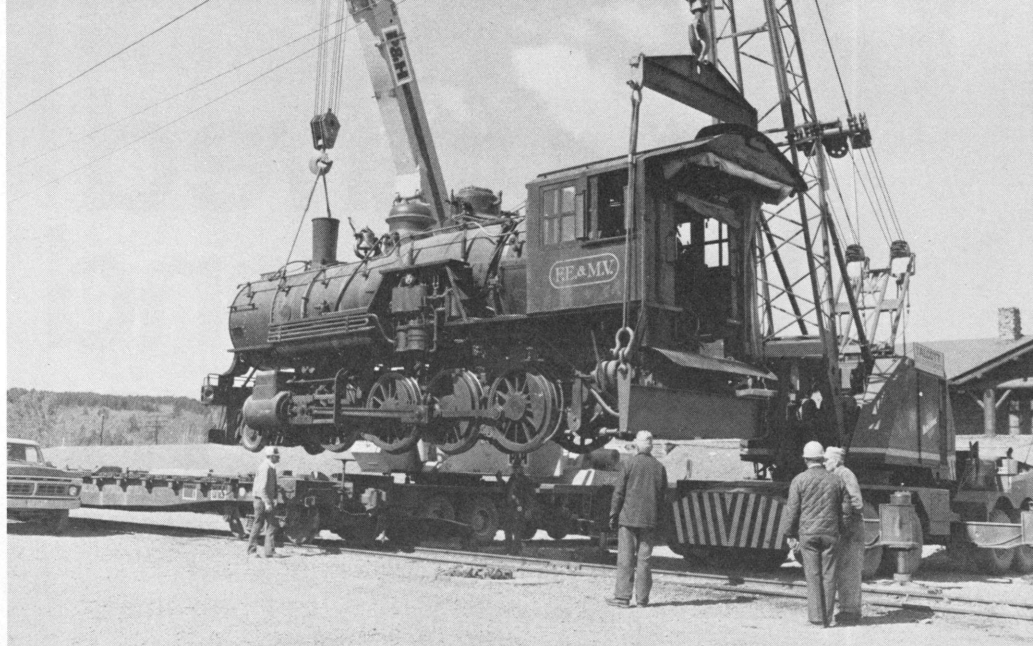
*CIMINO: The 1890s is a period that has not been dealt with all that much, in the dramatic sense. I think that the 1870s was an interesting time because it was post-Civil War and relatively fresh. Almost all college commencement speeches of one kind or another had something to say about reconstruction and reconciliation and going forward to build something new and fresh, and they were rather idealistic and responsible in tone. It seems to be very much the same spirit that we saw during the period that produced the Peace Corps—and a certain kind of idealism in terms of great expectations about the possibilities of life, the possibilities of what can happen socially in the country. I think that was characteristic of the 1800s, a certain sense of high expectation. I think, in many ways, *HEAVEN'S GATE* is about what was happening when the people were struggling desperately to become Americans. They were half assimilated, half non-assimilated, but trying terribly hard to be American. I think in some ways it's a film of America trying to become America.*

COMMENT: The story of all of our ancestors on these shores.

*CIMINO: I suppose in some way there is a sense of connection to *THE DEER HUNTER*, a sense of connection to roots outside of America—something older, something more settled, something which was much more sharply defined in terms of class. I hope that the film in some way reflects the richness, the traditions and the multiplicity of the lives of all of these groups of immigrants. Talk about specific problems—one of the most pleasant problems was that some of the scenes are played in Ukrainian, Russian, Polish, Slovak, German and Dutch, as well as English. They are all perfectly understandable. One understands the emotions and the feeling without understanding the language.*

QUESTION: In terms of the actual staging of the action, what would you say were your most challenging sequences?

CIMINO: I think almost all of them were. It is hard for me to think of something, at



Period locomotive is hoisted off a flatcar at Wallace, Idaho, after its long journey from Denver, Colorado. Seven other cars were transported in the same manner. (BELOW) In the town of Sweetwater, built on three-foot-high platforms at the edge of Two Medicine Lake in Glacier National Park, the mass action of horses, wagons and drivers is spectacular.



least at the moment, that didn't seem to be especially challenging; it all was. Some things were more time-consuming than others. The sequence in Wallace, Idaho, for example, where we had more than 1,000 people on the street and 80 or 90 teams of horses and a set that we spent the better part of six months constructing and where we brought a train from across five states. It took an enormous amount of time for just the placing of people, breaking up that large group into specific components, placing faces for a specific effect. Just the time that it takes to choose the immigrants who will be sitting on top of the train, as opposed to those sitting on the platform, as op-

posed to older arrivals who would be in the street, and composing with faces so that without any specific verbal instruction one had a sense of class structure, staging the action so that simply by showing life on the street it is made clear that there are distinct differences between rich and poor and new arrivals and older arrivals and people in transit, and that even within the immigrant groups there are more well-to-do people and extremely poor people—to make all these things clear in an unobtrusive way is simply time-consuming.

COMMENT: I've noticed on your sets
Continued on Page 1168

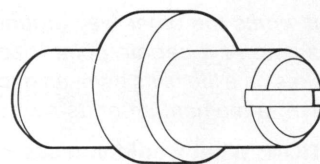
Engraved Arrows and Eccenters:

The 16SR design goes far beyond “groundglass adjustment.” Its fiber optics screen comes in a precision *mount*, like a lens mount. The mount holder on the camera body can be adjusted with a screwdriver, using eccenters. Engraved white arrows indicate the settings.



Part of one 16SR module: inside the rear half of the camera housing. Aperture is visible at lower left. In center: white

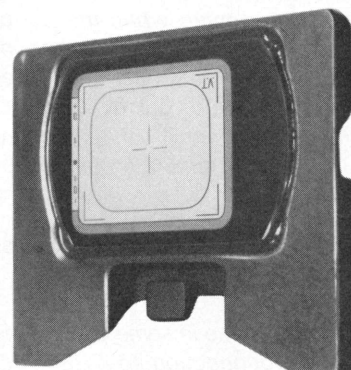
arrows next to eccentric slots show the technician how each eccentric affects the positioning of the fiber optics screen.



This is a drawing of an eccentric. It's a metal shaft with a circular bushing halfway along it. The bushing is positioned off center — eccentrically.

In the photo at left below, you can see three eccenters end on, with their screwdriver notches facing you. Each eccentric is partly hidden behind a slot. Each slot has a double-ended white arrow next to it, or crossing it.

The 16SR fiber optics screen, in its frame mount, is set horizontally in the mount holder above the aperture. When a technician turns one of the eccenters with a screwdriver, the eccentric bushing moves the mount holder.



Fiber optics screen in steel frame mount.

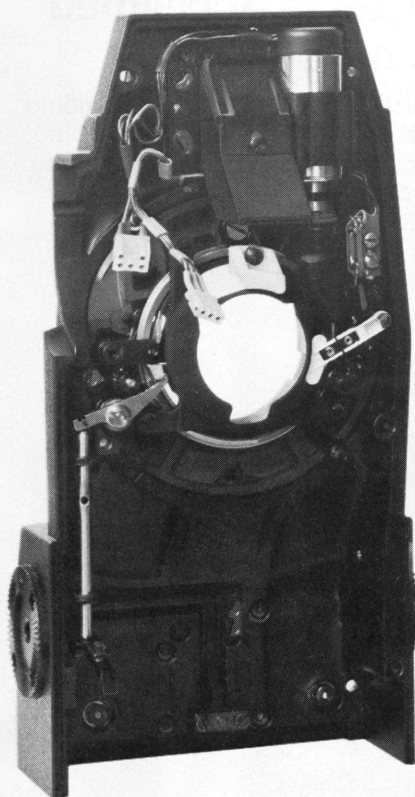
What the arrows mean:

The right-hand arrow points up and down. Turning that eccentric moves the screen mount holder up and down—moving the fiber optics screen in and out of focus.

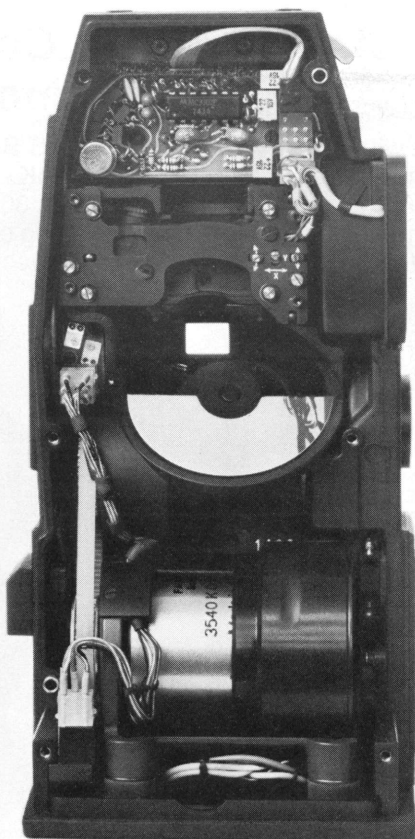
The center arrow points left and right. Turning that eccentric moves the mount holder (and thus the fiber screen) from side to side—so what you see at the eyepiece matches what the film sees at the aperture (parallax).

The left-hand arrow has a curved vertical shape. Turning that eccentric tilts the mount

Technology of the 16SR/One of a Series:



Inside two halves of 16SR camera housing (see white arrows on one at right). Housing halves are two of fifteen modules. The



modular idea: they're quickly separable for service; and built in adjustments ensure precise compatibility of every module.

holder (and screen) so focus is uniform from edge to edge.

Why they're engraved:

The white paint can be stencilled on the metal surface. Or the arrow forms can be engraved and the grooves filled with paint. Engraving is the better way.

Why eccenters:

Any groundglass must be adjustable for focus, parallax and tilt. With every other 16mm camera, you have to use shims—layers of thin, compressible foil. Adjusting an eccentric is both faster and more definite.

It's also more permanent. When you adjust Eccenter Three, it doesn't alter the settings of Eccenters One and

Two. You can zero in systematically and logically on the final setting. Then it *stays* adjusted.

Zero-tolerance interchangeability.

Measured in microns, no two artifacts are exactly alike. But the 16SR fiber optics screen mount is built to tolerances closer than a lens mount. Any ARRI mount lens will fit any Arriflex camera. Any 16SR fiber screen mount will fit any 16SR. If the screen is replaced, focus almost certainly *won't* need to be re-set. But if it does need it, that's easy: *16SR modules are adjustable.*

Time is money and will continue to be.

When you buy a camera, you know the purchase price.

But you don't know what skilled service labor will cost three years from now. You don't know what it will cost to rent another camera while yours is being worked on, three years from now.

Modular saves time.

All cameras need routine maintenance. The 16SR's modular design and precise settings make adjustment quicker and more positive. *The camera stays adjusted longer.*

Repair is quicker, too. The 16SR is designed to be dismantled easily; and a malfunctioning or damaged module can be replaced immediately, from stock. The fact is: The 16SR is the most sophisticated 16mm camera in the world. It's also the simplest to service.



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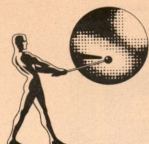
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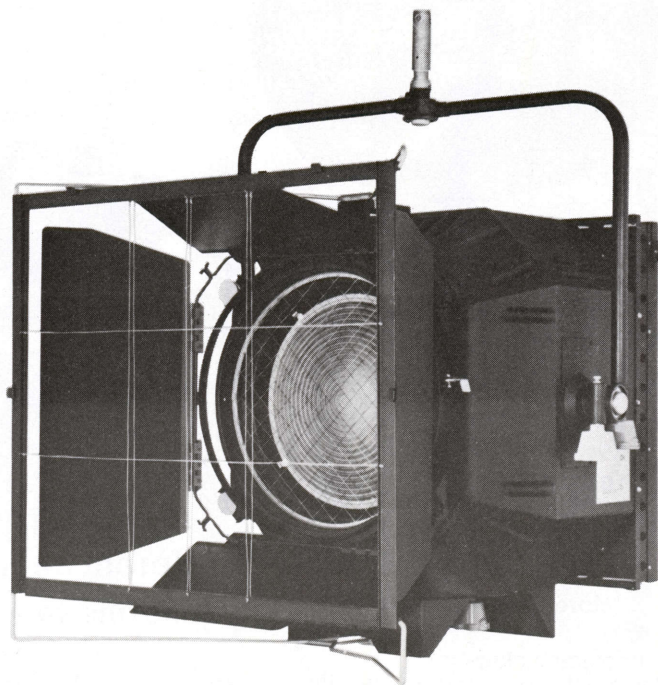
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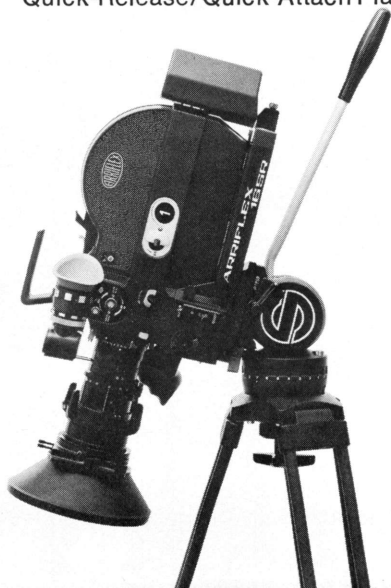
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There are independent tilt and pan locks. And there are seven *numbered* settings of fluid drag for tilts, and seven settings for pans.

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INDUSTRY ACTIVITIES

SMPTE ANNOUNCES PROGRAM FOR NEW YORK CONFERENCE AND EXHIBITION

The 122nd Technical Conference and Equipment Exhibit of the Society of Motion Picture and Television Engineers (SMPTE) is set for the New York Hilton Hotel in New York, Nov. 9-14, 1980. The Conference promises to rank among SMPTE's best. The equipment exhibit will be one of SMPTE's largest. It has been sold out since early July.

The Conference will feature, in addition to the equipment exhibit, a full five day technical program of sessions dealing with the subjects of current concern to the motion-picture and television industries. The Conference will also have a schedule of social events, a full program of activities for spouses, and a coffee club. The SMPTE Conference will be the focal point of the motion-picture and TV industries. More than 9,000 film and television engineers, executives and production people are expected to attend.

According to Program Chairman Richard Marcus, Rombex Productions, Inc., the subjects that will be covered on the SMPTE technical sessions and their schedule of presentation during Conference week are: *Monday, Nov. 10, morning*: Conference Opening; *afternoon*: The History of British Television; *Tuesday, Nov. 11, morning*: Motion Picture Film Production; Television Signal Generation and Processing; *afternoon*: Motion Picture New Film and Equipment; Computer Graphics; *Wednesday, Nov. 12, morning*: Television Production and Post Production; *afternoon*: Motion Picture Laboratory Technology; Problems of Maintenance; *Thursday, Nov. 13, morning*: Lighting and Sound for Television and Motion Pictures; *afternoon*: Videotape Recording; *Friday, Nov. 14, morning*: Digital Television.

The SMPTE Equipment Exhibit will feature a wide variety of professional television and motion picture equipment. Almost every imaginable type of film and video equipment will be on display from film and video cameras, editing equipment for film and tape, laboratory equipment, equipment for lighting, sound, and projection, lenses, VTRs and TBCs, microwave equipment for ENG, telecine projectors, tripods, to mention only a few of the many types of film and video equipment that will be shown.

With more than 300 booths and over 140 exhibitors, this will be the largest equipment show where a substantial amount of both film and television

equipment will be shown together under one roof. The increased participation of filmmaking and television equipment manufacturers and suppliers proves that the SMPTE Exhibit is now the major show for motion-picture equipment, and also one of the most important shows for video equipment as well. All who register for the Conference will be admitted to the exhibit free; passes for non-registrants will be available gratis from SMPTE before the Conference, and at the door during Conference week for \$2.50.

The SMPTE Conference social schedule begins on Sunday evening, Nov. 9 with a special evening of food and entertainment sponsored by Eastman Kodak Co. On Monday, the SMPTE will hold its annual Awards Luncheon where the SMPTE will recognize outstanding achievements in motion pictures and television and outstanding service to the SMPTE. New York's Mayor Edward I. Koch will be the Guest Speaker at the Luncheon.

On Tuesday the SMPTE will hold the Fellows Luncheon where SMPTE members who have been elevated to the rank of Fellow will be honored. Refreshments at the Fellows Luncheon will be sponsored by Magna-Tech Electronic Co., Inc.

The SMPTE Banquet will be held on Wednesday Evening, November 12 and will feature a full evening of dining, dancing and entertainment. Cocktails for the Banquet are being sponsored by Hazeltine Corp. The music and entertainment will be sponsored by Sony Corp.

Each morning the SMPTE Conference will have a Coffee Club for the convenience of SMPTE registrants. The Coffee Club will be sponsored by Fuji Photo Film U.S.A.

For persons wishing to pre-register for the technical sessions, the rates are as follows: for SMPTE members, weekly (including luncheon) \$135; daily, \$45; for nonmembers, weekly (including luncheon), \$150; daily, \$50. For persons registering at the Conference, the rates are: for SMPTE members, weekly (including luncheon), \$150; daily, \$50; for nonmembers, weekly (including luncheon), \$165; daily, \$55. Registration for the spouses program is \$35 (including luncheon) for pre-registration, \$40 (including luncheon) at the Conference. Tickets for the luncheon are \$25 each; for the banquet \$38 each.

Additional information on the Conference and Exhibit is available from SMPTE Conference Dept., 862 Scarsdale Avenue, Scarsdale, NY 10583.



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The IN-SHOT, UP AND DOWN Elemack Dolly takes a bow!

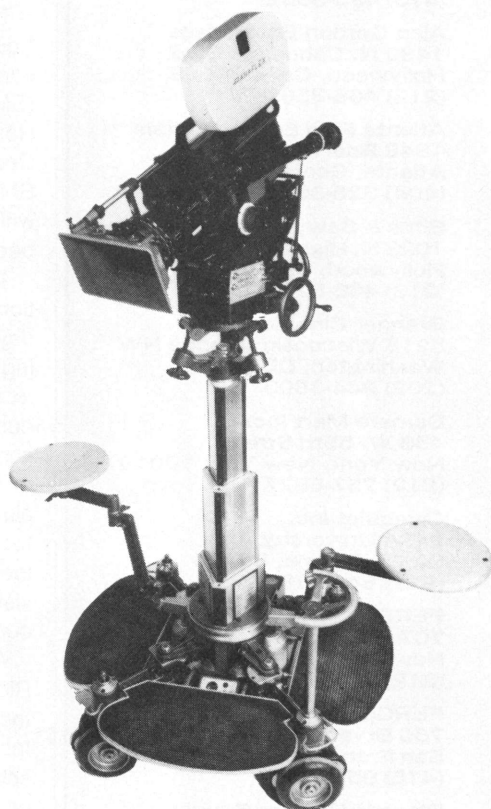
It's always a pleasure to have a new item of equipment that is obviously right from the word go and the Elemack Cricket Dolly is just that.

It has all the versatility of the ubiquitous Octopus (Spyder) dolly, runs on the same track (especially our new super smooth 'flat top'), takes the same accessories, but can also raise and lower the camera, in-shot, over a wide range of speeds.

With a Panaflex camera mounted on a Panahead, the minimum and maximum lens heights are 3'9" and 5'11", giving a rise and fall of almost 2'2". The fastest up or down speeds, with automatic feathering at the start and finish of the movement is 3 seconds, the slowest is as long as you like. An hour if necessary.

Seven full lifts are possible off a single charge, after which the hydraulic accumulator may be recharged in 60 seconds off 110V AC or DC, 220-240 AC with a transformer.

As with the Octopus (Spyder), lower lens heights may be achieved by the use of a 'Snake' bracket and a combination of faster rise and fall, and more of it, with greater overhang by the use of an Elemack Jonathan Jib or Mini-jib crane arm.



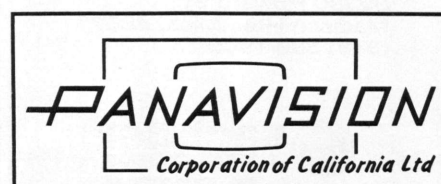
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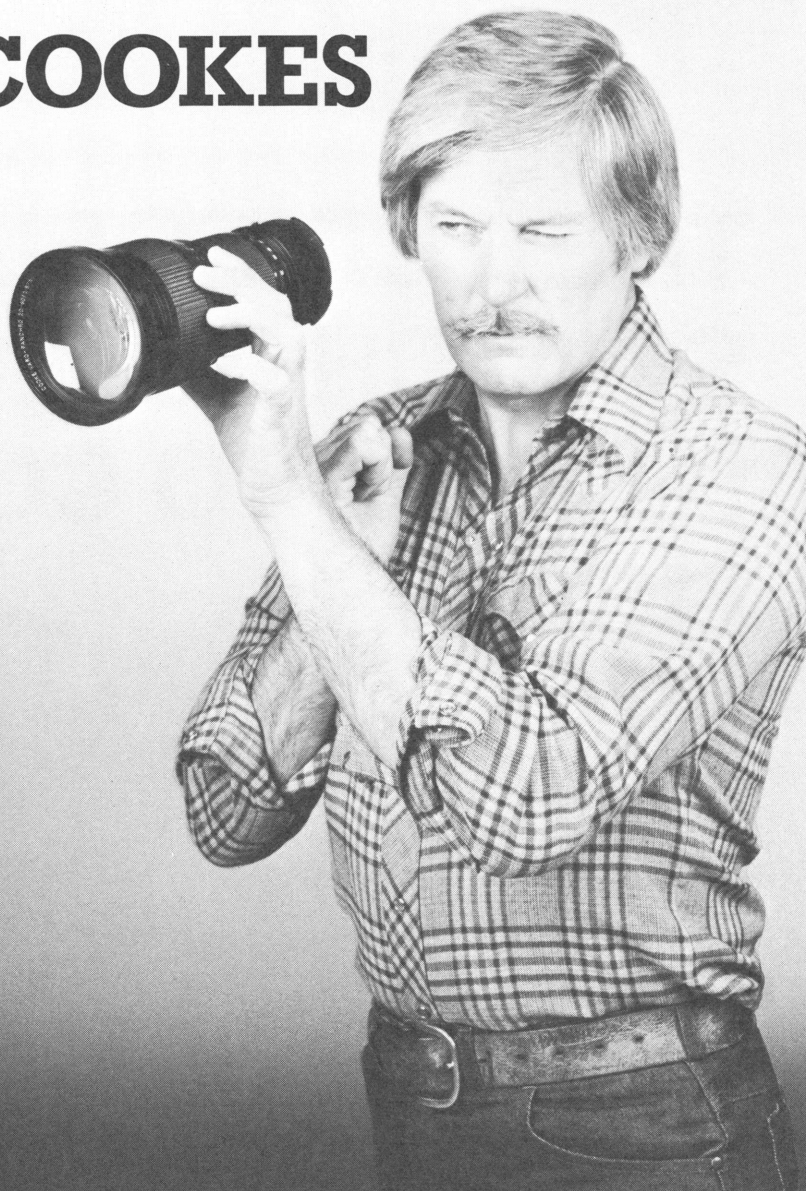
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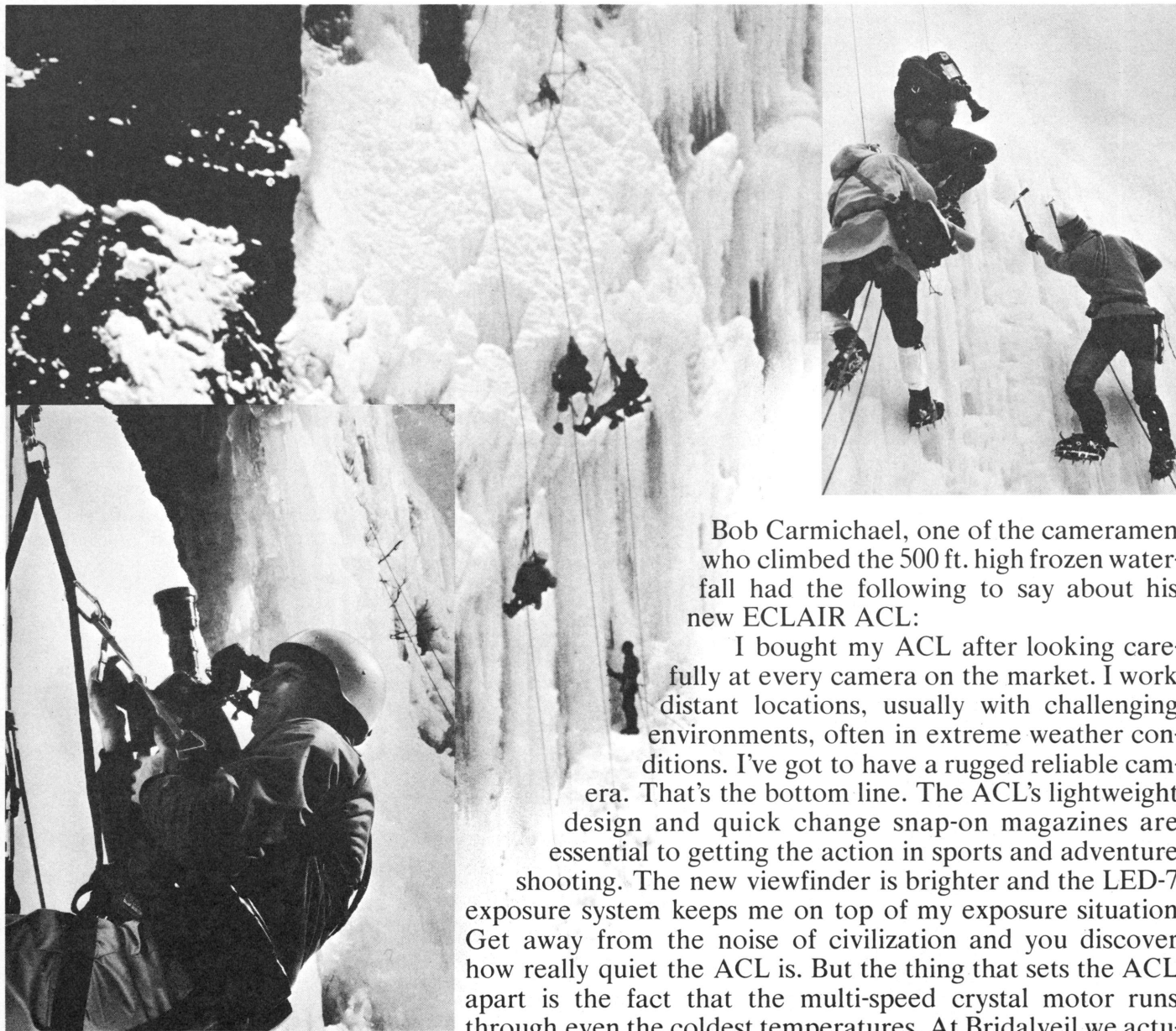
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cameramen—Bob Carmichael, Greg Lowe
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I bought my ACL after looking carefully at every camera on the market. I work distant locations, usually with challenging environments, often in extreme weather conditions. I've got to have a rugged reliable camera. That's the bottom line. The ACL's lightweight design and quick change snap-on magazines are essential to getting the action in sports and adventure shooting. The new viewfinder is brighter and the LED-7 exposure system keeps me on top of my exposure situation. Get away from the noise of civilization and you discover how really quiet the ACL is. But the thing that sets the ACL apart is the fact that the multi-speed crystal motor runs through even the coldest temperatures. At Bridalveil we actually got ice build-up on the camera body and it continued to function perfectly. ECLAIR ACL is now so well proven that it really is an industry standard.

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INTRODUCING THE "LITTLE BIG CRANE"

By **RICHARD DEATS**

Key Grip

A new, light, portable crane that can be assembled fast like an Erector set, and breaks down into segments for easy toting, does a big job on the set

We named the new crane the Little Big Crane because it's so small and yet it can do big things. One of the things that this crane has over other cranes is that it can be totally disassembled and carried into buildings and utilized in areas where you have weight problems with the larger cranes. You can use it on precious surfaces, like tile floors, because it doesn't have the weight. Yet it still goes up 18 feet, which is quite high for a portable crane.

You can take it up to the top of a mountain. You can airfreight it. (We took it to London for HEAVEN'S GATE.) You can take it to sports events and not have a problem of getting it through doors or down stairways. You can just disassemble it and take it down. You can use it virtually anywhere, and I think that's the greatest thing it has over other cranes; it's so versatile.

On HEAVEN'S GATE we used it in an area where it would have been absolutely impossible to take a larger crane. We hand-carried it out onto a beaver pond, right where the beaver had its den, and we set it up and used it. We also took it

into a restricted wilderness area where there were no vehicles of any kind allowed. We packed it in on desert dollies for about a mile and used it down next to a lake where it was absolutely forbidden to have any motorized equipment. We couldn't have gotten the shot that we got with any other piece of equipment.

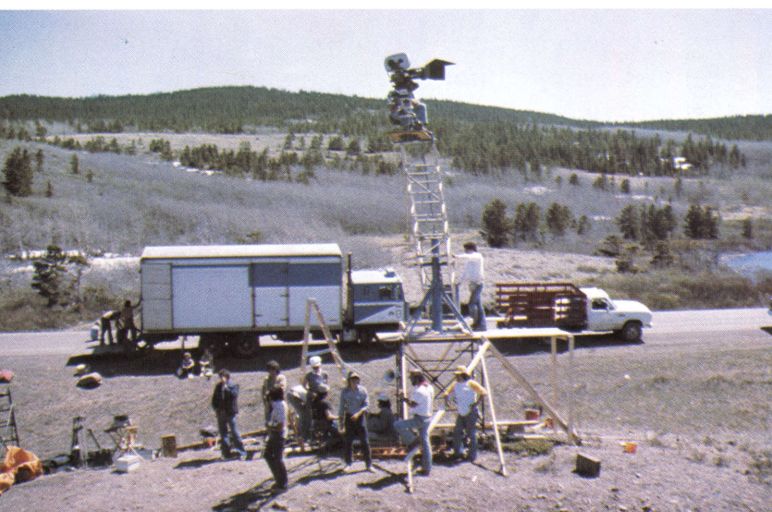
The Little Big Crane can also be put on the bed of a truck and the rig can be used as an insert car. It can be used on a train or a boat—even a small boat. There's no place you can't take it, because you can disassemble it. On HEAVEN'S GATE we used it in a very, very confined area, the sleeping quarters of the immigrants, a corridor about five feet wide. It was extremely tight quarters. We've put the crane on top of six-foot parallels, we've put it on top of a 10-ton truck, we've put it in the middle of rivers, we've put it in pick-up trucks, we've used it in small buildings. There hasn't been anyplace where we haven't been able to use it.

The crane comes with two arms. One is a ten-foot arm and the other is a six-foot arm. The shorter arm goes up 11 feet and the longer arm goes up 18 feet. The origi-

nal concept of the crane called for it to carry just the operator, but now it carries both an operator and an assistant.

The base right now travels on what is called a "pipe dolly", which is a 12-wheel dolly that travels on 1-5/8-inch pipe which you can get anyplace in the country. This means that there is no set amount of track you have to carry; you can always pick up track wherever you are. The posts for the crane have manual leveling and disassemble from the base. The base can be mounted in a pick-up truck; it can be mounted on the ground; it can be mounted just about anywhere. It can be used on the roof of the tallest building.

The largest piece of the crane is approximately 10 feet long and two feet wide and two feet high (at its largest end); it is part of the main arm, which breaks in half. The entire crane was shipped to England in seven crates. The most inconvenient crate, of course, was the one holding the lead. Empty, the crane weighs about 1,200 pounds and three men can assemble it in under 30 minutes.



(LEFT) On the East Glacier location for HEAVEN'S GATE, the Little Big Crane is shown being assembled on top of a hill to get a shot of the immigrants riding atop the freight cars. It is mounted on an 8-foot parallel, which brings the camera 25 feet above the ground. (RIGHT) Michael Cimino rides the crane during rehearsal of combination crane/dolly shot at Champion's cabin. (BELOW LEFT) Shooting special effects shot of the cabin burning. Insulated drape protects the operator against the heat. (RIGHT) Digging a hole to get the crane down to grass level.



Basically, the reason for the building of this crane was the constant trouble you have with a large piece of equipment on a motion picture set. You have a large piece of equipment and then you have no way of getting your lights close to the camera—or moving the piece of equipment around the lighting units to get it across the set. Another reason for building it was the weight factor. Also, the laying of tracks for the big cranes is much more difficult. One of the unusual things that happened on HEAVEN'S GATE was that we laid 400 feet of track for the crane and got our shot that same afternoon. We never could have done that with a larger crane.

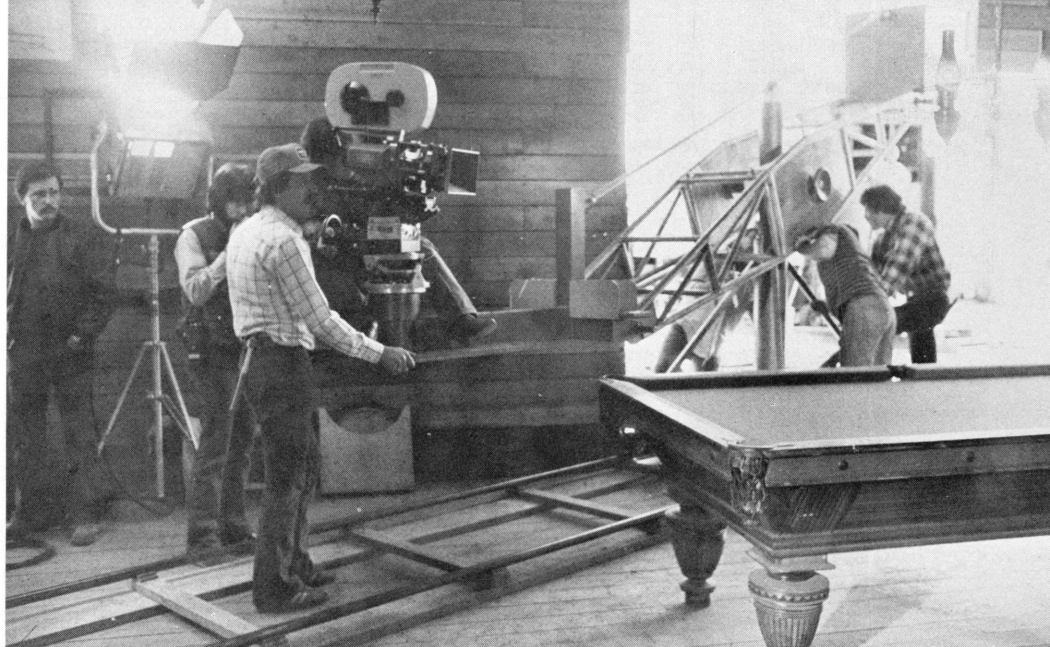
With this crane you are able to move in and out of buildings through ordinary doorways, or up and down very steep grades, or over terrain that is very unstable. Sometimes the larger cranes really hold you back, because you not only have to lay track to get into the area, but you then have to lay track to use the crane. The basic idea of this crane was to build it as versatile and portable as it could possibly be.

The idea for the Little Big Crane was first conceived when I was originally supposed to work on JAWS II. As it turned out, there was a problem between the cameraman and the studio. They hired another cameraman and I was no longer involved. But up until that time I had planned to build the crane for that picture because they needed a crane that could be utilized on a boat to shoot on the water with an arm. Then I told Vilmos Zsigmond about it as something that might be used on HEAVEN'S GATE and Vilmos became very enthusiastic over its possibilities.

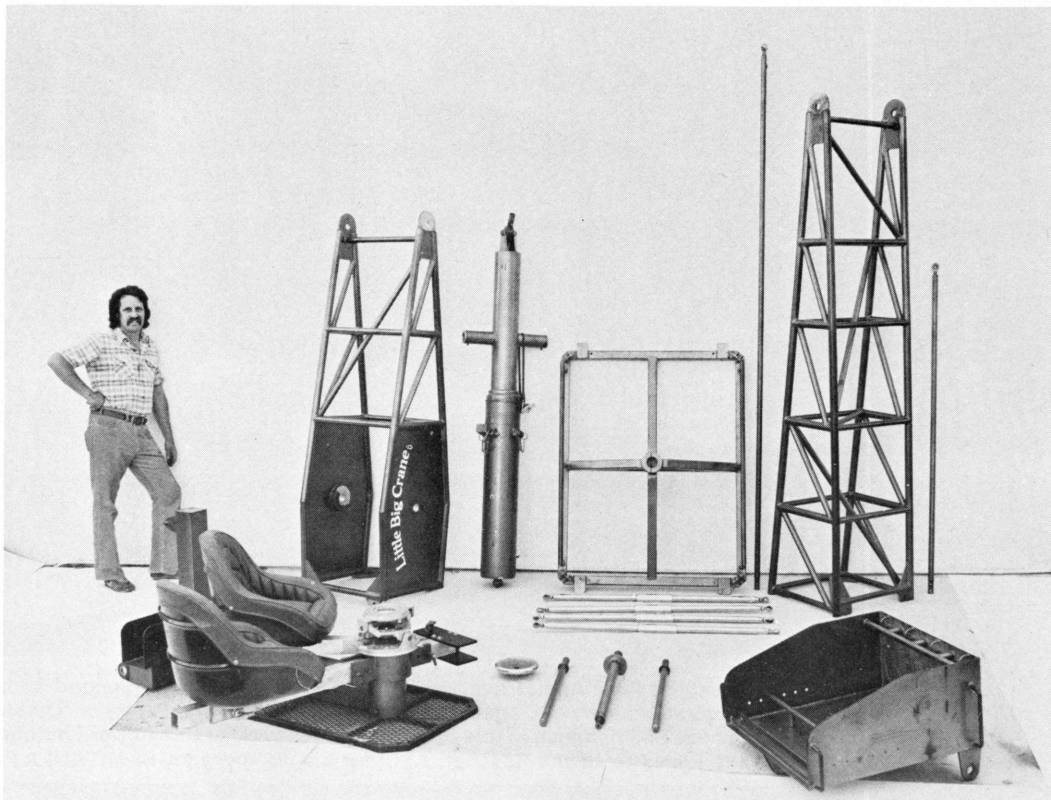
I had an idea of what I wanted, but I had never built a crane before, so I went to a person, Art Brooker, who has built several cranes and has been probably one of the best riggers and key grips in this industry and, between Art and myself, we designed this crane. A machinist friend of ours actually did the construction, under the supervision of the two of us. Since the birth of the crane, it has been through many changes and it probably will go through quite a few more leading to definite improvements. I foresee the building of another crane, maybe even a larger model, but one that would still be portable and we would try to make it lighter.

As originally designed, the crane did not have a leveling post, it did not totally disassemble and it could only carry an operator. Now the crane does have a leveling post, it totally disassembles, and it can carry both an operator and an assistant—so it has come a long way since the prototype design.

The basic construction of the crane,



The crane pokes its arm through an entrance into the Two Oceans Saloon in rehearsal for a dolly shot. (BELOW) Key Grip Richard Deats, co-designer of the Little Big Crane stands beside its components, which have been broken down to demonstrate its portability. It can be air-freighted in seven crates, including one for the counterbalancing lead weights.



where at all possible, is of aluminum, but where strength is definitely essential, it is of steel. So it's about 50% aluminum and 50% steel. If we built one that was lighter, the only way we could cut its weight would be by using more precious metals. For example, stronger steel that would allow us to go to thinner walls, or perhaps a stronger, differently tempered aluminum. That would be the only way we could cut the weight even more, but basically this crane is pretty close to being as light as you can go. Still, we might be able to shave off 200 to 400 pounds.

Actually, between the idea stage and

the building stage there were a lot of discussions and a lot of sketches. We never made any models because the concept of a crane is not new and we already had a basic idea of what we wanted. The modifications that we made had to do with being able to disassemble it and transport it as easily as anything that weighs that much can be transported. It was constructed in a machine shop close to my workshop where we could stay on top of the construction, but it was built by a machinist.

On HEAVEN'S GATE we utilized the
Continued on Page 1146

SIXTH ANNUAL EMMY AWARDS CREATIVE ARTS IN TELEVISION

The Academy of Television Arts & Sciences pays tribute to the creative artists "who utilize their special kind of magic to bring ideas to life"

As has been its custom for the past several years, the Academy of Television Arts and sciences sponsored a dual awards presentation this year. On the evening of Saturday, September 6, 1980 the Academy held its Sixth Annual Banquet honoring Creative Arts in Television in the Exhibition Hall of the Pasadena Center.

On the following evening, Sunday, September 7, the Academy telecast over the ABC Television Network its Thirty-Second Annual Emmy Awards for Night-

time Programming. The program originated in the Pasadena Civic Auditorium.

In the wake of an industry-wide strike by actor members of SAG and AFTRA, there was, up until the very last minute, considerable speculation as to whether the telecast would go on at all, since actors traditionally serve as presenters and they had already announced that they would boycott the event.

The show did go on, however—but just barely. With writers, directors and network executives substituting for the more

colorful actors, the telecast was a lackluster affair and it ran much too long. Co-hosts Dick Clark and Steve Allen, risking the wrath of their performer colleagues, made a valiant effort to keep things light with their snappy patter, but the effect was rather hollow. Both Clark and Allen announced that they were donating their "substantial fees" to a relief fund for the striking actors.

Actually, the Creative Awards Banquet, held the evening before, was a much more lively and successful affair. Not telecast, it had several actors (including the militantly pro-strike Ed Asner) as presenters and the atmosphere was warm and intimate.

For readers of *American Cinematographer* the key awards were the two EMMY statuettes presented in separate categories of cinematography. The nominees for those awards were as follows.

OUTSTANDING CINEMATOGRAPHY FOR A SERIES

For a single episode of a regular series

EMMETT BERGHOLZ

Fantasy Island

The Wedding

ALRIC EDENS, A.S.C.

Quincy, M.D.

Riot

GERALD PERRY FINNERMAN, A.S.C.

From Here to Eternity

Pearl Harbor

ENZO A. MARTINELLI, A.S.C.

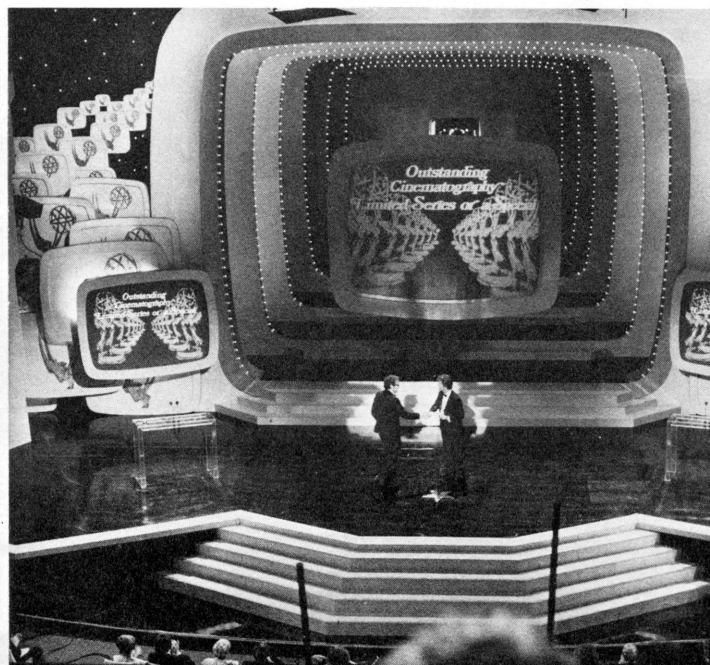
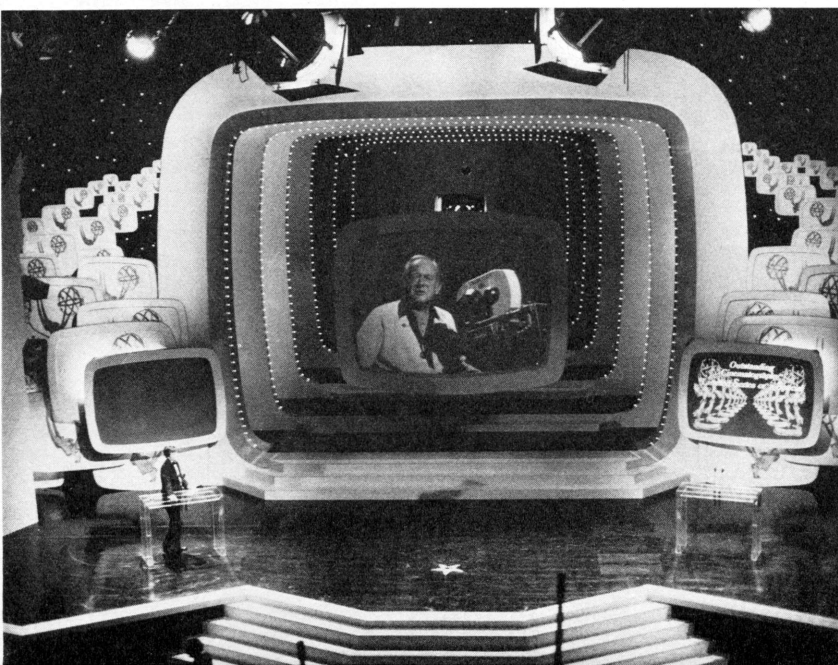
The Contender

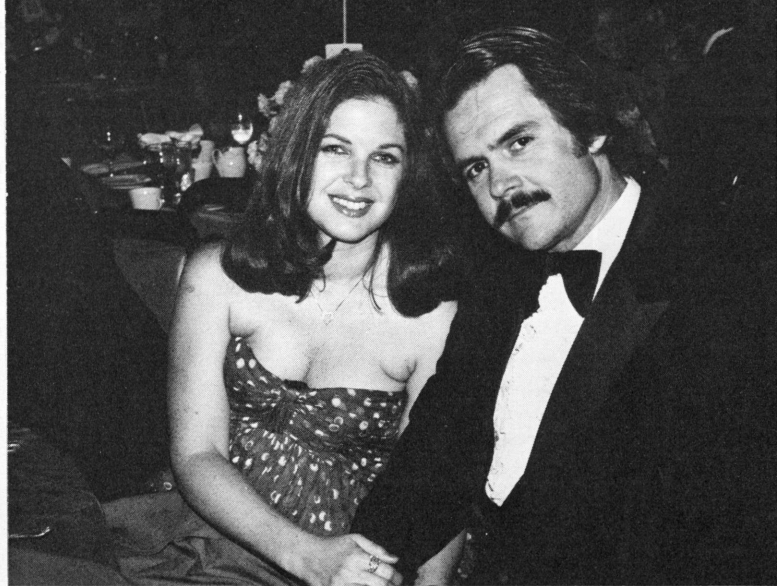
Breakthrough

JOHN McPHERSON, A.S.C.



(ABOVE LEFT) Pasadena Civic Auditorium, site of the telecast of the Thirty-Second Annual Academy Awards. (LEFT) From the screen in the auditorium, Ted Voigtlander, ASC announces the nominees in the category of "Outstanding Cinematography for a Limited Series or a Special". He was himself a nominee in this category for his work as Director of Photography on *THE MIRACLE WORKER*. (RIGHT) Dick Clark presents the EMMY to Gayne Rescher, ASC, for his photography of *MOVIOLA* ("The Silent Years").





Some of the nominees and their ladies, photographed at the Creative Arts Awards Banquet. (LEFT) Harry Wolf, ASC, (nominated for BRAVE NEW WORLD), with Mrs. Wolf. (RIGHT) John McPherson, ASC, (nominated for THE INCREDIBLE HULK—"The Broken Image"), with Mrs. McPherson. (BELOW LEFT) Alric Edens, ASC, (nominated for QUINCY, M.D.—"Riot"), with Mrs. Edens. (RIGHT) Gerald Perry Finnerman, ASC, (nominated for FROM HERE TO ETERNITY—"Pearl Harbor"), with Trisch Stewart.



The Incredible Hulk
Broken Image
TED VOIGTLÄNDER, A.S.C.
Little House on the Prairie
May We Make Them Proud

OUTSTANDING CINEMATOGRAPHY FOR A LIMITED SERIES OR A SPECIAL

For a single episode of a limited series, or
for a special

JOE BIROC, A.S.C.
Kenny Rogers as the Gambler
GAYNE RESCHER, A.S.C.
Moviola
The Silent Lovers
TED VOIGTLÄNDER, A.S.C.
The Miracle Worker
HARRY L. WOLF, A.S.C.
Brave New World

The winner in the category of Out-

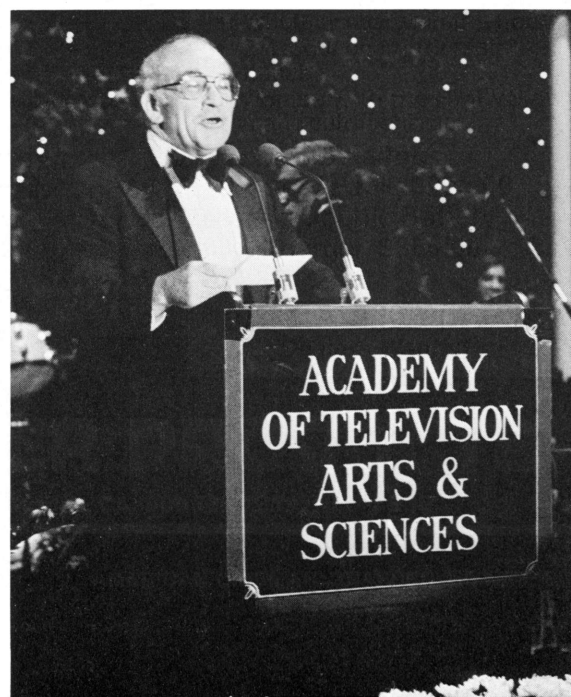
standing Cinematography for a Series
was Enzo Martinelli, ASC, for "THE
CONTENDER" (*Breakthrough*), CBS.

The winner in the category of Out-
standing Cinematography for a Limited
Series or a Special was Gayne Rescher,
ASC, for "MOVIOLA" (*The Silent
Lovers*), NBC.

Mr. Rescher's award was presented
during the Sunday night telecast and he
was initially wiped off the air when some-
body pushed the wrong button and rolled
a commercial just as he was about to
accept his EMMY. However, the mistake
was noted during the running of the
commercial and the award presentation
was repeated—this time on the air.

Members of the American Society of
Cinematographers wish to extend their
congratulations, not only to the winners,
but to all who were nominated for this
signal honor. ■

Ed Asner, the beloved "Lou Grant" of tele-
vision, was on hand as one of the gracious
presenters for the Creative Awards, which
were not telecast.





Vilmos Zsigmond looking thru a Tiffen polarizing filter. (Above Left)

***"I've been shooting through Tiffen filters for a long, long time
—and I intend to keep right on using them."*** Vilmos Zsigmond ASC

"It's always comforting to know when I'm shooting a multi-million dollar feature that all my equipment is the best there is. That's why I use Tiffen filters. Their colors are stable and do not vary, they match Kodak's gels to the nth degree, they're very well made, and they never come apart...even in the coldest weather.

"I've been using them for all my films. Most recently they were used in shooting Close Encounters, The Deer Hunter and The Rose (soon to be released).

"When we shot Close Encounters we made great use of the polarizers,

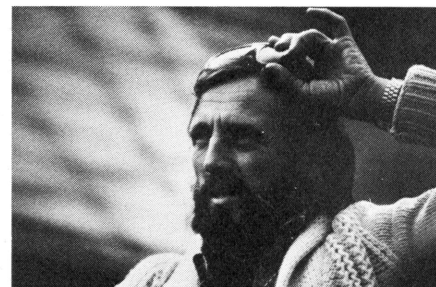
but it was the Tiffen low-contrast filters that really impressed us. We were particularly concerned about maintaining the delicate color balance from generation to generation. We didn't want the normal production footage to look different than the special effects footage which sometimes was one or two generations away. The low-cons made all the generations match.

"It seems to me that your low-cons are more finely graded than most of the others.

"I've been shooting through Tiffen filters for a long, long time—and I

intend to keep right on using them.

"I would personally like to thank Nat Tiffen and the entire Tiffen organization for all their help to the film industry."



Vilmos Zsigmond, ASC, Director of Photography: Close Encounters, The Deer Hunter, The Rose, Heaven's Gate and many other outstanding films

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"Their innovative design makes RDS/HMI Fresnels ideal for all film and video location shooting: especially live mass events and sports specials..." Bill McManus

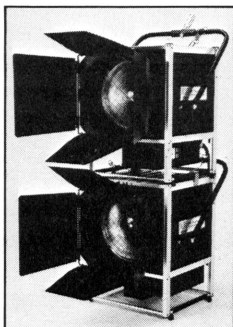


"Working as we often do under less-than-controlled circumstances — where power is sparse, cables have to be stretched across large areas, and there are large crowds to contend with — we've come to appreciate the enormous versatility and rugged reliability of the RDS/HMI Fresnels," says Bill McManus, president of McManus Enterprises, the prominent production lighting design company (based in Bala Cynwyd, PA) and member of the official 1980 Winter Olympics lighting team.

"I applaud their original and innovative design!" says McManus. "Their unique cube-shaped design and rugged modular construction provide RDS/HMI Fresnels with distinct advantages over other HMI lights currently on the market."

Stackable

"An obvious advantage is that several luminaires can be vertically stacked for ease of transportation and convenient storage. It allows you to cut down on the size of the truck you're taking along... Stack them three or four high at the edge of a tail gate and strap them to the truck. When you pull up to a location, just undo one strap and start handing the lights off. This makes setups real quick and easy."



Convertible

"Another important feature is that RDS/HMI luminaires can be easily converted to incandescent Fresnels by simply replacing the HMI insert assemblies with optional insert assemblies which accept standard tungsten-halogen lamps. That means a lot to a company like McManus which is involved in both sales and rental of equipment, because shelf space is so valuable."

Wider Focusing Ratio

"The lights have such long range, such reach, we were able to use them at Lake Placid from the roof tops of two hotel buildings as if they were regular follow-spots!"

"And the specially designed RDS/HMI Fresnel lens provides a smoother field of light as well as a wider focusing ratio from spot-to-flood."

Safe, Rugged and Reliable

"The entire RDS/HMI insert assembly — including lamp socket, ignitor circuitry and switches — can be removed easily without the use of tools for safe, convenient relamping."

"At Lake Placid, a couple of lights were knocked down accidentally. In both instances the lamps were not broken, and the fixtures fired right up within minutes of the accidents. I credit this to the specially designed, shock-mounted heat sink lamp sockets. We had no major breakage, no downtime, no leaks, and no loss of life to the lamps!"

Bill McManus (right) with Joe Tawil of The Great American Market, one of Cinema Products' major dealers for RDS/HMI 575W, 1200W, 2500W and 4000W Fresnel spotlights.



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ENZO MARTINELLI, ASC DISCUSSES HIS EMMY-WINNING FILM

By ENZO MARTINELLI, ASC

Not just another boxing film, but one which gave the cinematographer a chance to create atmospheric mood and adopt unusual camera angles

THE CONTENDER tells the story of an amateur heavyweight boxer who aspires to go to the Olympics. Director Sutton Roley, who likes bizarre, wild, unusual angles, made it fun to exercise imagination, especially in the fight scenes.

Atmospheric mood and visual excitement were created through the use of smoke, shooting into lights, a #3 fog filter and light diffusion. Foreground spectators blended off into darkness and occasional lighters flaring in the background filled in for the rest of the audience. Since ring corners are the same, except for color, we set lights and rarely changed them. This made more set-ups and shots possible within our limited time schedule. Since there was plenty of light and arena illumination, only face lights were necessary.

Camerawise, we used two BNCs with 20-120 zooms—one set wide, the other close. An Arriflex was used for in-the-ring action, with camera operator Bob Marta doing as much fancy footwork as the boxers.

Marc Singer, who plays the role of the Contender, is a superb actor and athlete, so he did not need a double. That made the action shots and close-ups a cinch.

My basic exposure was f/4 at 100 footcandles, but at times the light level in the ring got up to 200 footcandles. I didn't adjust exposure because I felt that a

heavier negative would add some brilliance.

The downtown Los Angeles Main Street locations were challenging. For the night street shots, an Arriflex shooting at f/2 with a face light of 25 footcandles exposed the negative enough for the actors without additional light. Buildings, stores and street traffic were also visible in the background. At no time did I find it necessary to force develop the negative.

The Main Street bar was lit mostly with 9-light units to bring out the colors, since the dark paneling in there really soaked up the light. Hotel rooms and studio interiors were lit for scenic values and mood in both high-key and low-key. My gaffer, Bill Huffman, and Key Grip, Saul Selznick, worked with such speed and efficiency that they made it possible to crowd a lot of picture into a tight schedule.

Our practical interiors included a cheap hotel room downtown, the locker room, the bar at Fifth and Main and a restaurant in Newhall where we staged a fight. We rented the restaurant for the whole day and put in a lot of prop furniture which got broken up during the course of the fight. The locker rooms at the Olympic Auditorium were horrible; you could hardly get into them, so we shot only a few scenes there and then they had to build a set for us in the studio. The studio

set was like a regular locker room; you could hardly take the walls out.

I don't mind shooting in practical interiors, but there is always the question of where to put your lights. For example, if you are shooting on the seventh or eighth floor of a hotel and you'd like a light coming through the window, all you can say is, "Well, let's get a helicopter and let it hover outside." In the studio there is nothing to it. You just beam a light through the window and you have either moonlight or a light change or daylight or whatever you want. That's what studios are for.

On the other hand, some practical location interiors work out very well. For example, on THE GOSSIP COLUMN, which was a full-length special entered for the EMMY Award, we shot inside an expensive restaurant on La Cienega. I was really quite proud of the way that sequence looked. It really came out quite nicely. I was able to put nice cross lights in that made it look fairly rich. As a matter of fact, it looked a little MGM-ish.

Getting back to the fight sequences in THE CONTENDER, I mentioned that most of the footage inside the ring was hand-held. You almost have to do it that way. A couple of times we were able to get the dolly into the ring and move back and forth that way, but it was easier hand-held. The fight scenes were staged by a stunt coordinator and pretty well rehearsed. You can't just go in there and have the guys start swinging. Unless you have two really skilled boxers, you have to choreograph it. Then it's a matter of getting a lot of little pieces with two cameras. You go in with Arris and get a lot of cuts and hope the editor can put them together.

At first, in the fight sequences, we used a lot of smoke, but it was killing everybody. So the producer said, "There's too much smoke. We'll have to cut it down." I thought so too. I said, "Good Lord, everybody in the scene has to puff on a cigarette to make this look legitimate." The amount we finally used just gave it a bit of haze, but I think it really added something to the mood. Most cameramen use smoke these days, but I hadn't used it before.

The restaurant we rented for the fight sequence in Newhall presented some interesting light change problems. We wanted to show people walking up the street and then bring them into this little beanery. They sit down at a table and the camera continues on down the counter where we see Marc Singer sitting there

Mr. and Mrs. Enzo Martinelli at the Sixth Annual EMMY Awards Banquet honoring the Creative Arts in Television, held in the Exhibition Hall of The Pasadena Center on the evening of September 6. He won in the category of "Outstanding Cinematography for a Series" for his photography of the "Breakthrough" episode of THE CONTENDER series.



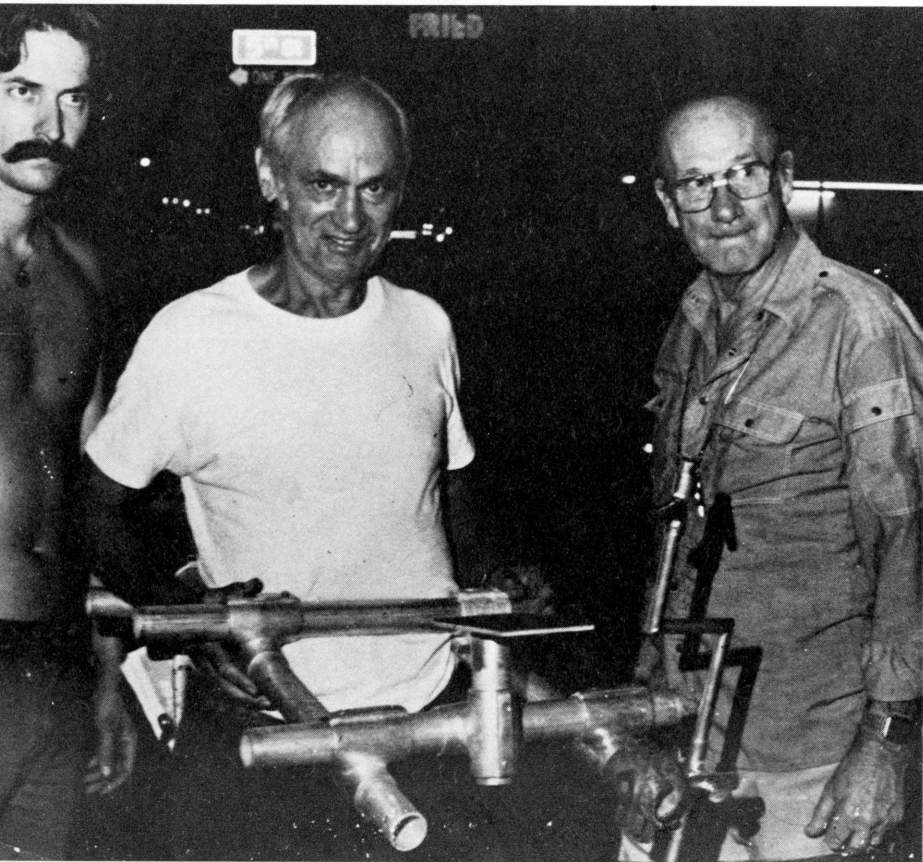


Proudly posing with EMMY. Martinelli shot in both practical interiors and studio sets for THE CONTENDER. He has no particular preference.

having a cup of coffee for breakfast. Two hoods come in and try to rob the restaurant and then there is a fight.

The light change for that scene was pretty extreme. We started with an f-stop of about f/14 out on the street. Then we dropped down to f/11, then f/8, then f/6.3, then f/5.6 and finally f/4.5. The assistant had to hustle as he was walking alongside the Arri. On one take he tripped a little bit and pushed a little fast and opened up too quick and you could see the background a little too soon. It was

Suggested by Enzo Martinelli and built by Key Grip Saul Selznick, this peculiar looking rig permits the camera to be mounted directly onto the body of the actor to shoot a continuing closeup of himself. The actor can turn 360 degrees, stand or walk around with the camera two or three feet from his face. The actor is his own operator, controlling the switch.



overexposed. In order to execute an extreme light change like that smoothly, you need a nice piece of mechanism on your stop ring—or a sensitive finger.

For THE CONTENDER we devised a little rig to mount the camera directly onto the actor. I told my Key Grip, Saul Selznick, what I wanted and he got some tubing and a bracket and he made it. You set the camera onto it facing the actor, so that you have a close-up of him. Now the actor can turn and stand and walk around because the camera is on this little rig around his belt. The camera is two or three feet away from his face, but it's mounted on him—not on a car, not on anything else. He can turn 360 degrees if he wants; he can swing his arms, put his hands in front of his face, or whatever.

For shots like this, our device is better than a Steadicam, because you don't need an operator. The actor is his own operator. You just hand him the switch and he turns it on.

There is even room to clamp a light onto the device, so for one night scene I was able to put a little soft Obie light on it. The electrician went along carrying the battery. The face light produced about 25 footcandles, which was plenty of light with the lens stopped to f/2.

We shot the scene at Fifth and Main Streets with a lot of people looking on, but it made a very good shot. ■

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"Wherever I am—whether it's San Francisco or Indiana—I keep in touch with TVC. It's an on-going dialog. When I was shooting in Texas recently for eight solid days, I was on the phone every morning at 7 a.m. to the timing department at TVC, to check up on my dailies.

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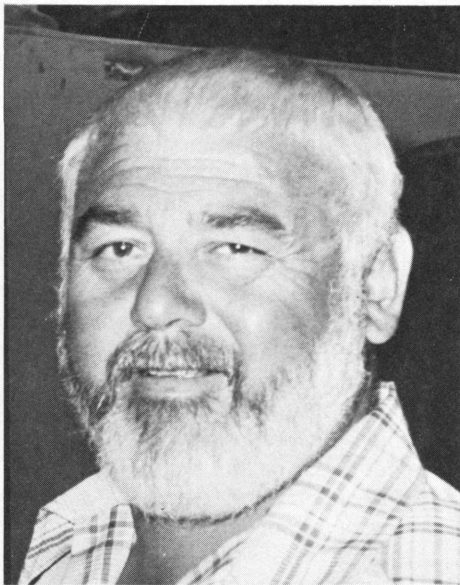
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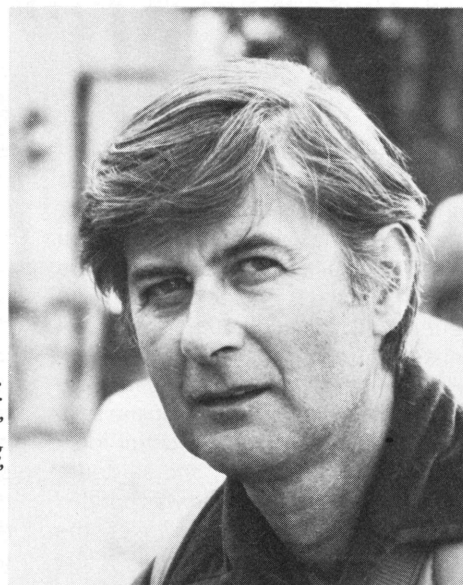
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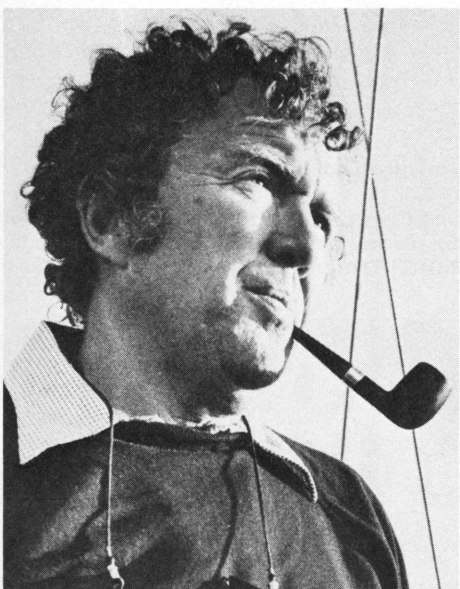


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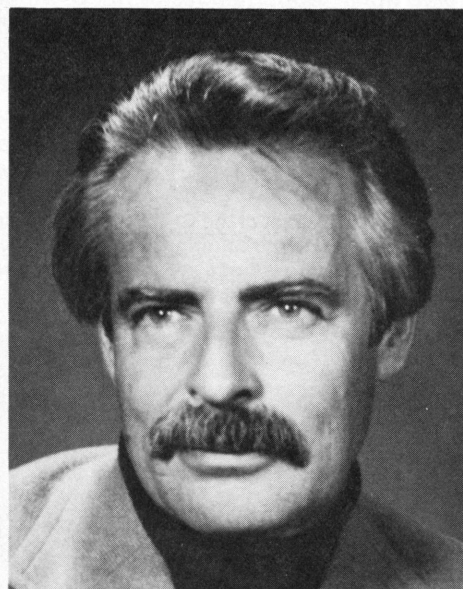
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AN INTERVIEW WITH EMMY-WINNER GAYNE RESCHER, ASC

Recreating in terms of visual style the golden aura of Hollywood's silent days called for a fine balance of soft light and hard light

On the evening of September 7, 1980, Gayne Rescher, ASC, was awarded the EMMY in the category of "Outstanding Cinematography for a Limited Series or a Special", Specifically it pertained to his work as Director of Photography on "The Silent Lovers" episode of the MOVIOLA mini-series.

He very nearly missed having the presentation of his award shown on the telecast when someone in the control room pushed the wrong button and started a commercial rolling just as he was handed the glittering statuette. However, the error was caught during the run of the commercial, the presentation was repeated (this time on the air) and all ended well.

In the interview that follows, Mr. Rescher discusses his photography of the award-winning film, as well as his lighting theories in general:

QUESTION: You won your Emmy for THE SILENT LOVERS. Of the three segments of MOVIOLA, was that your favorite?

RESCHER: Photographically, yes. THE SCARLET O'HARA WARS was more fun, but it was light, brittle comedy and our director, John Erman, and I felt it would play better if we kept it bright and slick, somewhat like the comedies of that time. That kind of look doesn't give you many photographic opportunities. THE SILENT LOVERS was somewhat heavier and we felt justified in using a heavier contrast range and going for deeper effects. We tried to vary the look of each segment according to the material and also make it reminiscent of the photo-

graphic style of each particular era. I say "reminiscent" because we weren't trying to duplicate a style, merely catch the feeling. For one thing, I usually key with soft or bounce light and the older style was all hard light. But then, in those days, they used such large, silked-down units, it almost looks the same. I used lots of kickers and back light in places I normally wouldn't use them and I got a lot of mileage out of the old high 3/4 key that gives the classic triangle of light on the shadow side of the face. Remember the glamorous Hurrell photography? He used this all the time. Fortunately, our star, Kristina Wayborn, did not have deep-set eyes and this kind of set-up brought out her wonderful bone structure and made her look even more like Garbo. As a matter of fact, she had one of those rare faces that you just can't make a mistake on, no matter what you do.

QUESTION: Isn't soft light usually considered rather flat?

RESCHER: Not the way I use it. If you take a soft source, such as a bounce of soft light, at 90 degrees you will have a half-lit face, the same as hard light. It's the same with a 3/4 key, except that you don't have the unnatural hard nose shadow, and you don't fill as much because of the "wraparound" quality of the larger source. In THE SILENT LOVERS I hardly used any fill. Now, today, there is nothing unique about this method. Many Directors of Photography are using it in various ways, and we all learned it ourselves as we went along . . . many different roads to the same place. I first

started experimenting with this years ago on RACHEL, RACHEL. I liked what I saw, and on my next project, JOHN AND MARY, the director, Peter Yates, and I agreed to soft light the entire picture. As far as I know that was the first time this technique had been used on a total picture. It looked very good, but it was too difficult. Control was the big problem, especially in the background where you're trying to get some interesting shadows. For that picture I drew out a kind of grid arrangement that slid on the front of the soft lights, and my gaffer had a sheet metal shop make them up. They were a great help in controlling the unwanted spill light, while they didn't affect the soft light quality. My crew nicknamed them "egg crates" and today they are common throughout the industry. Anyway, I went on to using soft light in the foreground and hard, more controllable lights in the background where you can't tell the difference, and on and on until today, I guess, I use bits and pieces of everything I've ever tried, depending on the situation. After all, what you are after is an illusion of reality. How you get there doesn't make much difference. You find your reality by manipulating the quality of your light and by bringing it in from its proper source.

COMMENT: You mention source several times.

RESCHER: Source is the key word. I'm a fanatic for "source", no matter where it comes from. If the source is behind the actors, then that's where I'll key them from. I like photography to look as if it were not lit . . . that it just happened that

(LEFT) On the telecast of the EMMY Awards, which took place the evening of September 7, Dick Clark presented Gayne Rescher, ASC, with the statuette for "Outstanding Cinematography for a Limited Series or a Special", to honor his work on "The Silent Lovers" episode of MOVIOLA. The bit was missed on television because of a wrongly cued commercial. (RIGHT) The presentation was repeated for the cameras by co-host Steve Allen.





The sweet smell of success. Rescher happily hoists his EMMY statuette for the photographers following the presentation.

way. If you see the magician palm the card, the illusion disappears. All the magic is gone. Look at any fine, realistic paintings, especially the Dutch masters, the light that hits the group does come from that window, no matter which way the people are facing. The quality of the light is soft because the source is soft. The artist does not call attention to himself, but hides behind the total reality he has created, and then, of course, (easy for the artist!) the picture is clean.

QUESTION: What do you mean by "clean"?

RESCHER: I mean not having double shadows, or phantom shadows, stalking your people. Shadows are fine . . . even actors make shadows, but they should make them from the source, and fill light shadows are against the source. It's a false element that takes away from the reality you're working for. Anyway, my crew knows I do not tolerate these phantoms and when they appear, we all grab a stick and kill them.

QUESTION: Within this framework, that is, these elements you like and dislike, are you still able to vary your style?

RESCHER: Absolutely . . . but source lighting and the unlit look remain the same and are fitted to whatever style I'm working for. We have a number of these

tricks left in our bag; various colorations or tones, high or low contrast, lens choices for deep or shallow focus, endless combinations of diffusion. I used a lot of diffusion on "The Silent Lovers", a combination of fog and diffusion, as I remember. I was trying for a misty-romantic look, coupled with the high contrast of those early black and white pictures.

QUESTION: Were you able to see any of those pictures before you started shooting?

RESCHER: No, but I went through endless books of stills which were helpful. Remember, we were not trying to imitate anything, just to capture a feeling. Oh, I did imitate the light almost exactly on the Scarlet O'Hara test scene in the studio, and the burning of Atlanta. Those scenes are so well known, I felt I should hit them reasonably close.

QUESTION: The burning of Atlanta looks very good. Where did you shoot that?

RESCHER: Columbia Ranch. There were a million problems. They wouldn't let us burn anything. We were in the middle of a drought and the fire department felt we shouldn't burn beautiful downtown Burbank. We had to plan the shots so that we could matte the fire in later. Not only that, but our fine producer, Stan Margulies of Wolper Productions, who normally gave John and me anything we wanted, said they just couldn't afford more than one matte. Now that meant we could only shoot one wide-angle shot toward the fire, which neither John nor I thought as adequate. I suggested using the same matte twice and John agreed. Well, it was easy for me . . . all I had to do was leave the camera locked off and turn

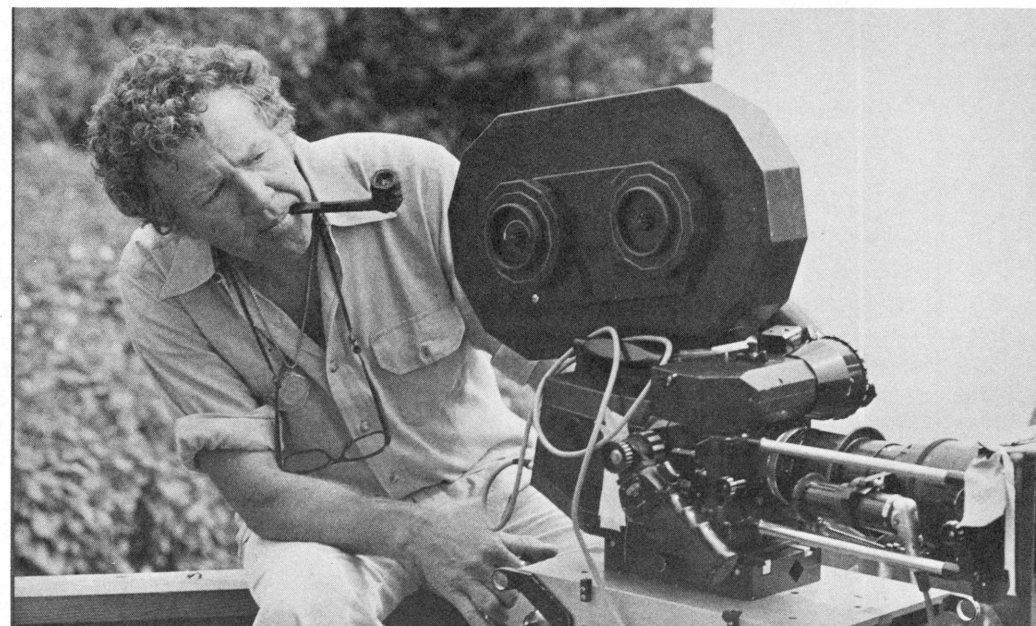
it on again, but poor John had to stage the entire night's action, and get eighteen actors into the positions they would arrive in when we got to that part of the action ten hours later. Anyway, it worked.

QUESTION: You've made a lot of features and lot of TV. I assume you prefer features?

RESCHER: Yes, and I'm sure you'd get the same answer from any other Director of Photography. However, let's qualify it a little by saying a good feature. I've turned down many low and medium-budget features because I simply didn't like the script. I'd rather do a good TV film than a bad feature. I'll do anything if I like the script. I don't mind working fast. The man who taught me more than anyone about lighting was Harry Stradling, Sr. He worked as fast as anyone I've ever seen and one of the things he taught me was that the simplest way is usually also the best way.

The thing I do mind about TV is the compromises you have to make. I don't mean on interior lighting, that's totally under my control, but the exteriors, when you know the light is perfect in late afternoon, and you must shoot it in the morning because of some dictum in the schedule, or you see a great location for a scene and can't use it because it's too big a move . . . that sort of thing. I mean, you have to fight for quality, but you know in TV that the producer has only so much money and you have to respect that. Luck helps, but it's still a "win some-lose some" proposition. All in all, we do fairly well. I'm always amazed when it's all over. We shot PEARL (6 hrs) in 41 days, DUMMY (which won the Peabody Award) in 18 days and MOVIOLA was 18 days per segment. I know every compromise I made, but I'm the only one who knows and I'm not telling. ■

Gayne Rescher at work on his most recent assignment, photographing a television feature, THE PRIDE OF JESSE HALLAM on location in Cincinnati. He is shown using the new Ultracam 35mm camera. The white object behind the camera is a sheet of Foamcore used as the sole source of illumination for the scene being filmed.





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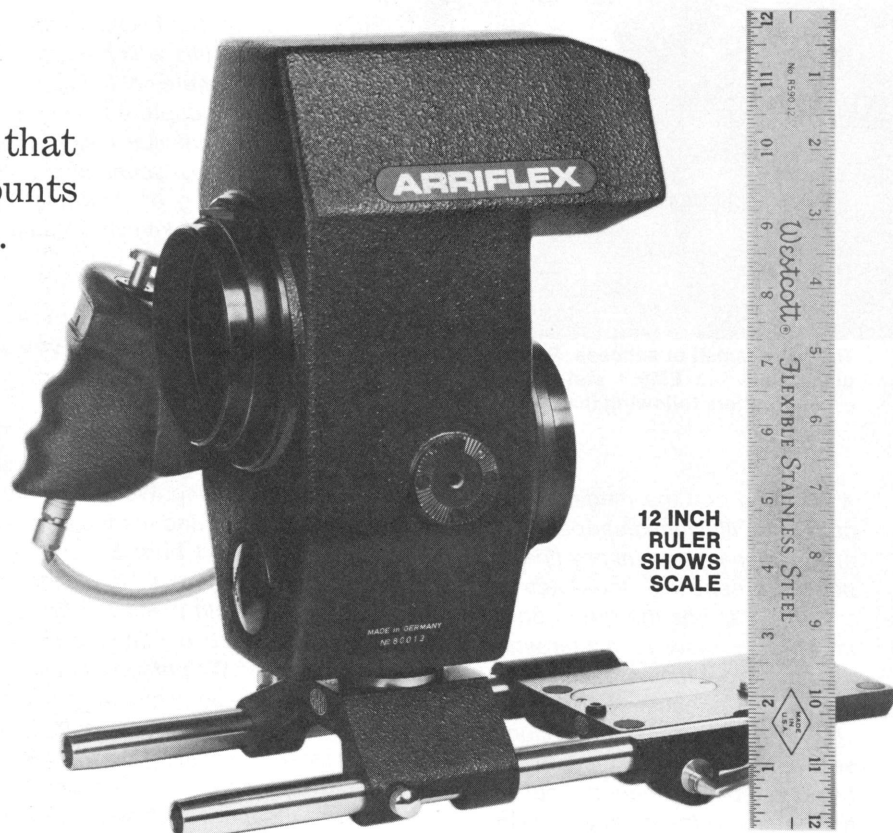
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The Image Stabilizer comes with its own Support Plate and Bracket. You mount your camera on the Plate and position the Stabilizer in front of your lens. Switch on the Stabilizer. Switch on the camera. Shoot.

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the Stabilizer vignettes. A small price to pay for effectively getting three times closer. And if you need a panoramic shot, that's easy: Pull the helicopter back — or take the Stabilizer off.

How it works:

The entering light rays are reflected off a front-surface mirror mounted on two gimbals powered by a battery-driven gyroscope. The mirror is effectively floating in space, as though on two trapezes — one oriented N-S, the other E-W. The image from this

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A gyro's directional stability makes it resist off-axis movement — such as panning the camera. If you insist, it tumbles in that direction. British Aerospace, the designers, have turned this tendency to advantage. A precession brake causes the gyro to *lean with* the panning motion, steadily. This is military aerospace technology, ingeniously adapted.



The British Aerospace Steadyscope uses the same stabilization method.

Above: surveillance from a NATO army helicopter.

British Aerospace is a company very much involved with high-precision technology. Military missile systems, orbital satellites...

One of their products is the Steadyscope. It uses the same gyro-stabilization as our Image Stabilizer, whose moving parts are also made by British Aerospace.

How well does it work?

In the November 16, 1978 issue of the British magazine *NEW SCIENTIST*, there's an article by Guy Parker on stabilized binoculars. Referring to the Steadyscope, Mr. Parker writes:

Anchored in space

"On pressing the uncage button there is an immediate transformation which is both psychological and optical. The impact is of course greater if one is being shaken in a helicopter, but even on land the image appears in an almost uncanny way to anchor itself in space, even if the instrument is deliberately jiggled about."

Detail resolution

"An optical phenomenon now becomes apparent," writes Mr. Parker. "After the initial pleasure at the disappearance of jitter, the eye seems to demand needle-sharp resolution, now that the visibility of detail is determined mainly by the quality of the optical design. *There is no future for a stabilizer which does not give the highest resolution under all conditions of use.*"

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STABILIZER SPECS:

Length (Image Stabilizer alone): 6 $\frac{3}{8}$ ins. Width: 4 $\frac{1}{16}$ ins. Height 9 $\frac{1}{4}$ ins. Weight (Image Stabilizer alone): 5 lbs. Weight on Support Plate with 9 $\frac{1}{2}$ in. rods and cable-release handle: 7 lbs. 4 oz. Maximum accelerative force: 6g. Warmup time: 15 seconds. Diameter of entry and exit ports: 76mm.



Rear view of Image Stabilizer shows Support Plate with threaded camera mount. Custom brackets are available for various cameras. Stabilizer can be removed from camera in less than two minutes.

No light loss, no image degradation.

There are no lenses, liquids or prisms in the Stabilizer. Light rays pass through optical flats front and rear, and reflect off two front-surface mirrors. The light at the exit port measures the same as the light entering.

Doesn't perform miracles. Does work in a car, though.

The Stabilizer is for making shaky shots smoother, *not* for simulating a rock-steady tripod. Thanks to its low mass, you don't have to wrestle with unwieldy g forces inside the moving helicopter. That's useful in a car, too, of course. And you can get out of the car with the Stabilizer on your camera, and continue shooting hand-held. (It's quiet enough to shoot sync sound out of doors at typical telephoto distances.)

Proof of low mass space hardware sophistication: a gyroscope powered by one D cell flashlight battery.



To improve a gyroscope's effectiveness, you can increase either its mass or its RPM. For military purposes, British Aerospace had to make it small, light and efficient.

High speed with low mass requires exact dynamic balance, of course. Eccentricity and bearing friction would impair accuracy and soak up power. One measure of the phenomenal precision of this machine: The gyroscope — with its double gimbal and mirror — will run about four hours on a 1.5 volt D cell!

Low mass saves money.

A low mass device is likely to be compact. With this one, you can rent a 5 place helicopter at \$300 an hour, and get steady shots *from inside*. No need to hang out of the open door, where the wind buffets the camera. And no need, either, for a 7 place helicopter at \$400 an hour, or more.



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REPORT FROM THE IFPA CONFERENCE

By BOB FISHER

The annual Conference of the Information Film Producers of America, Inc. focuses on new markets and gives its top CINDY Award to "SURVIVAL RUN"

"We are on the edge of a communications revolution that will be good for all of us."

That was only part of the message that filmmaker/author Mollie Gregory delivered to an attentive audience in one of eight lively workshops at the Information Film Producers of America, Inc. (IFPA) Conference and 21st CINDY Awards banquet held at the Biltmore Hotel, September 26th and 27th.

"The future usually arrives before we are ready for it," Gregory went on, pointing out that cable television alone is now a \$2.4 billion annual industry, rivaling theatrical film revenues. And it is bound to get much bigger, opening up many new channels for delivering special interest film and video programs, said the author of *Making Films Your Business* (Schoken, New York).

Other workshops were headed by Anthony Hatch, Manager of Media Relations for Atlantic Richfield, who described a monthly news magazine his company distributes to some 160 television stations and cable systems; Jerry Naidus, President of the JN Company, who spoke about packaging and distributing corporate-sponsored films; Jane Gibbons, Director of Public Relations for Home Box Office, and Loreen Arbus, in charge of West Coast original programming for Showtime Entertainment, who zeroed in on new opportunities for producing for the pay TV market; Malcolm M. Snyder, Assistant Vice President for Corporate Communications, Aetna Life & Casualty, who advised the film and video communicators how to interact with the goals of management; panel discussion organized by CFI's Jack West focused on the implications of the film-video union being brought about by emerging technologies; another panel of media department managers from IBM, Federal Express, Levi Strauss and Occidental Insurance probed the impact that the current economic recession is having on film and video communicators employed by their companies; and Joaquin Padro, President of Magus Films, who analyzed the making of a CINDY.

Padro's San Francisco-based production company earned a Gold CINDY in the Sports and Recreation category of competition for *Survival Run*. The 12-minute motion picture documents Harry Cordellos' participation in the grueling 6.7 mile Dipsea Race in Marin County. Cordellos, who has been blind since birth, was guided along the winding and

hilly course by his running companion and "eyes", Mike Restani.

Survival Run was named the Best of Show in the film/video CINDY competition and earned four of the five special awards given in this category. The special citations were for cinematography, editing, music and sound.

Another big winner in the CINDY competition was Will Vinton Productions, Portland, Oregon, which earned three of the 19 Gold CINDYs awarded, in addition to a special citation for having the best written film. The latter award was for a 14-minute animated feature titled *Dinosaur*, which earned a CINDY in the Educational/Science category. Vinton's other Gold CINDYs were for *The Little Prince* and *Legacy*, which won the Educational/Language Arts and Environmental and Ecology film/video production awards, respectively.

Vision Associates, in New York, was the only other producer to earn more than one Gold CINDY. They won the Fun Raising competition for an 18-minute film entitled *Voices of Israel* and the Public Relations/Under 15-minutes contest for a 10-minute feature titled *Racing*.

KNBC-TV weathercaster Pat Sajak presented the CINDY Awards.

The 1980 CINDY awards for film/video communicators were sponsored by the Motion Picture and Audiovisual Markets Division of Eastman Kodak Company. "We believe that it is very important to recognize and therefore promote excellence in this area of film production," said Robert S. Woolman, Director of Audiovisual Markets Development for the Kodak Division. "Information films make very important contributions to public knowledge and understanding in all segments of our society."

IFPA also awarded CINDYs for the production of filmstrips and single projector slide presentations, multi-image programs, and audiotapes. The purpose of the competition is to encourage the highest standards in the fields of information film and other media production, said IFPA Executive Director Wayne Weiss, who pointed out that all producers, whether they belong to the organization or not, are eligible to enter the annual competition.

IFPA has some 1,200 members organized into 10 regional and one student chapter. Members are all practitioners of the audiovisual communications arts, who either work for independent production companies or in-plant photog-

raphy departments. Every regional IFPA chapter participated in the preliminary judging of at least one category of competition. In addition to IFPA members, every panel included specialists representing the individual fields of interest that the films targeted on. For example, medical practitioners helped to judge entries in the Health and Medicine category of competition, educators participated in the preliminary judging of entries in the Educational competition, and clergy participated in evaluating religious films.

Finalists in each category were judged by a national blue ribbon panel which selected Gold, Silver and Bronze medal winners. All of the contending entries were shown at the IFPA Conference with continuous screenings running from early morning to midnight. It didn't matter what time it was or what else was happening, there were always people watching the films.

U.S. Navy Commander R.J. Wade, Jr. was named president-elect during the conference, and will head a new slate of IFPA officers starting in 1981. Wade is commanding officer of the Pacific Fleet Audio-Visual Command, in San Diego.

"One of IFPA's more important roles during the 1980s is to provide a platform for film/video communicators to make themselves heard. Film and video communicators have many mutual interests that can be served by speaking with one loud voice," says Cmdr. Wade.

Cmdr. Wade cited the varied workshops at the IFPA conference as examples of the many areas where film/video communicators can learn from one another and work together to establish goals and standards. Speaking of the changing roll of IFPA, Cmdr. Wade, a 12-year veteran of the organization, noted that some 60 percent of the members are now independent filmmakers. In contrast, during the early years, most of the members were located on the West Coast, and the majority were employed at aerospace companies and various government suppliers and organizations, he recalled.

Cmdr. Wade speculated that part of the reason for the shift in membership is that many former in-plant producers have become independent filmmakers and video communicators during recent years. Also, new technologies are providing more and varied means of delivery.

Many companies have established CCTV and videocassette player networks which they use to keep their em-

employees abreast of activities and trends in addition to providing specific skills training. With the emergence of satellite distribution of programs and other technologies and the need for companies to become more productive to remain competitive during the 1980s, Cmdr. Wade observed that this trend promises to accelerate.

At the same time, the emergence of pay and cable television as viable programming sources is also providing enticing new opportunities. There will be from 50 to 90 television channels available for distributing special interest programs to the majority of American homes during the next decade.

Meanwhile, education and corporate-sponsored films are becoming increasingly popular. In addition to the new program channels, there are literally hundreds of thousands of 16mm film projects already in place in the nation's schools and communities.

"There has never been a time when there were more opportunities, or challenges, or a greater need for us to speak with a common voice," Cmdr. Wade concluded.

Following are summaries of the IFPA workshop discussions:

Corporate News Films—Atlantic Richfield's Anthony Hatch described the genesis of *Energy Update*, a 30-minute news magazine produced by the corporation and distributed to some 160 television stations and cable systems monthly. It really began with the 1973-74 oil embargo and ensuing television coverage of energy-related stories. Many television stations don't have trained reporters in this field, Hatch contended.

Energy Update was designed to provide TV newsroom personnel with information they could digest in their own

language. However, from the beginning Atlantic Richfield has offered stations the option of running stories in part or the program as a whole. "These aren't news clips," Hatch stressed. "We produce complete packages that explore all sides of every issue that we tackle. If the program wasn't creditable no one would use the material."

Two people produce the monthly magazine at a cost of around \$10,000 to \$15,000 a show, including distribution. Sometimes, outside photographers are hired to work at remote locations. Hatch's department also sponsored several 30-minute films last year on energy-related topics. These were produced by independent filmmakers and distributed through Modern Talking Pictures.

Hatch's own background was of considerable interest to the audience. A two-time EMMY-winner and 13-time nominee, Hatch worked for the Associated Press and ABC before starting a 16-year career with CBS as a reporter and producer. He says that Atlantic Richfield has received many inquiries from other corporations interested in learning more about the company's work in this area. It's a concept that could easily spread.

Creating Film Packages—The JN Company has been in the business of providing counseling and creative services designed to enhance the "packaging" of corporate-sponsored films for some 15 years. So, JN President Jerry Naidus wasn't speaking about a new idea. However, with the recent big successes of several corporate-sponsored films that made effective use of packaging, Naidus was certainly speaking about an idea whose time has come.

Packaging is the process of turning a film into a program that evokes a

measurable response, Naidus said. It can encompass the use of classroom posters, study guides, quizzes and other collaterals. Package designers are now routinely hired to consult very closely with film producers, sponsors and distributors to develop overall plans, he added. The results in some cases can even surprise the most optimistic sponsors and producers. For example, Naidus outlined *The American Enterprise* series sponsored by Phillips Petroleum. The project started four years ago when 100 prints of five 30-minute films were distributed to schools. The films have now been seen in 70 percent of all American high schools. There have been half a million bookings, and the distributor is zeroing in on the 40 millionth viewer. There are now 8,000 prints in distribution.

Financing the Short Film—Mollie Gregory—Utopia isn't just around the corner, filmmaker/author Mollie Gregory cautioned. There are still going to be many challenges and problems for independent filmmakers. However, with the rapid expansion of cable and pay television, and the development of a network of home entertainment centers, prospects for independent filmmakers have never been more promising or intriguing.

"You need to stick around," she cautioned, "because it's getting better. Films that are unmarketable today will be salable tomorrow."

Gregory pinpointed negative attitudes towards the business end of financing independent films as one of the biggest problems facing practitioners. "Part of the art of producing a film is financing it," she said. "If you don't have the ability to sell or finance your films, you won't have the opportunity to produce them."

The moral is that independent filmmaking is a collaborative effort between the sponsor and the producer. Gregory stressed that there are no rules for finding a film sponsor. It's a fluid situation with flexible guidelines. However, there are pervasive principals that every independent filmmaker should become aware of:

(1) You must know what is required to raise money to produce your film. Does the potential sponsor require a presentation or a proposal? If so, are there specific deadlines? It's not uncommon for an independent filmmaker to present the right idea to the right sponsor in the wrong way or at the wrong time. Filmmakers who aren't highly motivated to do this work themselves might need partners who are.

(2) Understand that the concept for your film will determine your ability to sell it. By way of illustration, there are more

Continued on Page 1148



Filmmakers from all over America attended eight workshops at the annual IFPA Conference. The 1980 CINDY Awards for film/video communicators were sponsored by the Motion Picture and Audiovisual Markets Division of the Eastman Kodak Company. CINDYs were also awarded for the production of filmstrips and single projector slide presentations, multi-image programs and videotapes.

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**INTRODUCING THE
"LITTLE BIG CRANE"**
Continued from Page 1129

crane an average of four days a week and there was a little over 3,000 feet of dolly track that was laid for the crane alone.

One of the things that we can achieve with this crane is that we can take it onto the front lawn of somebody's house and not have to worry about doing but a minimal amount of damage to the lawn. We can use it around the tile or coping of a pool without worrying about breaking that down. We can also carry it into a place where we are going to use it and not have to build a lot of construction to get the crane from Point A, the street, to Point B, where the shot is. Sometimes the larger cranes run into problems on asphalt or lightweight concrete driveways. When they get close to the edges of these driveways they will break them down and there is a constant worry about water pipes underneath. The Little Big Crane does not have that weight problem.

In certain instances, on *HEAVEN'S GATE*, we ran two cameras on the crane, and we also mounted the crane on top of a 10-ton truck, which brought the lens of the camera up to about 33 feet. Now, that means, of course, that the camera could not dip down to ground level, but it could start at approximately five feet off the ground and soar up to 33 feet.

The crane is finished with a kind of special paint that is called "powder paint" and which comes out of a spray gun. It is charged with minus electricity which, like static electricity, causes it to attach itself firmly to the object you are painting. Then it travels on a conveyor built through an oven and is baked on at about 600 degrees, which makes it like the enamel on a stove. But this new paint is different from an enamel in that it has an elasticity to it. It can be abused and yet not lose its

Continued on Page 1171



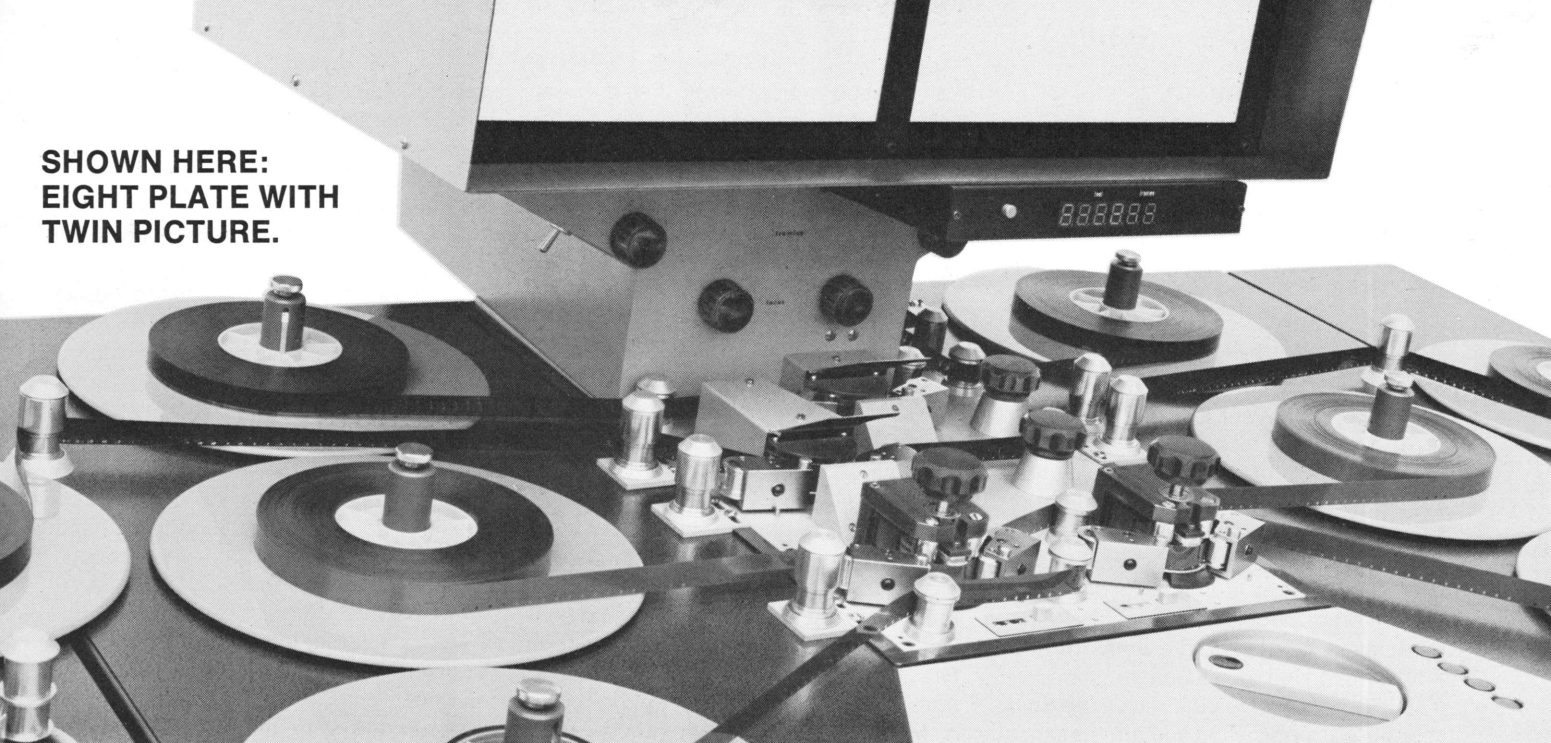
The crane is mounted on a 12-wheel "pipe dolly" that travels on 1-58-inch pipe, available anywhere in America. (BELOW) For a very fast tracking shot, grips not only push the dolly, but pull it along with ropes. There are no ball bearings in the crane's arm—which makes for smoother starts and, after a stop, holds the arm in an absolutely rock-steady position.



(LEFT) To cover a scene of the immigrants trudging down a country road in *HEAVEN'S GATE*, the Little Big Crane soars from the trench (dug to get the camera at ground level) on up to its maximum 18-foot height for a panoramic shot. (RIGHT) Michael Cimino rides the crane during rehearsal of a scene in the town of Sweetwater. He quickly fell in love with the crane because of its versatility, and took it along on the airplane when the company went to England to shoot.



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An example of RS-2 versatility: suppose you have one set up as a 16mm eight plate, with the twin picture module.

Officially, that's two picture and two sound tracks. But with the built-in optical/magnetic reader, you can run one picture and three mag tracks. *Without changing anything.*

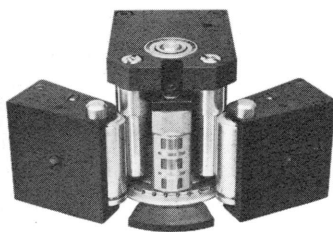
Now put that same 16mm twin picture module on a *six* plate RS-2. You get two picture, one sound—or one picture, two sound tracks.

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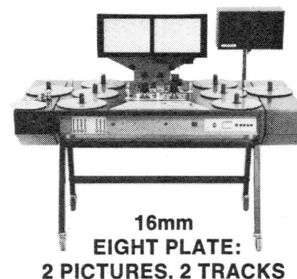
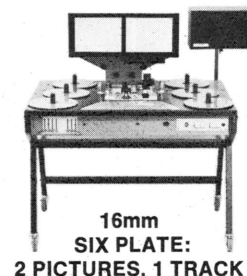
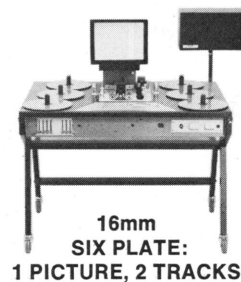
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buyers for short sports films than short art films.

(3) Different sponsors are motivated to finance films for different reasons. Does your film espouse a cause that a potential sponsor believes in? Is your film a tax shelter or an investment? It is important to understand the motivation of the sponsor and present your film in that light.

(4) Timing and research are essential. Research includes making certain that you are speaking to the right person when you present an idea for a sponsored film. Many corporations sponsor films. However, it is important to know that different people at the same company might have separate areas of authority involving decisions to sponsor films. Timing involves the relevance that your film idea has when you are presenting it or proposing to release it. This probably isn't a good time to propose a travel film about Iran, for example.

(5) In most instances the producer is the only one interested in making a film. The sponsor usually wants to know what the results will be. Present your film in that context.

(6) Be tenacious. "Unrewarded genius has almost become a proverb in our society," Gregory said.

With these principals in mind, the independent filmmaker needs a blueprint for selling his or her film not unlike a production schedule. Make a list of all of the potential sources of money, and write out specific strategies for reaching each of them, she suggested. Incidentally, a number of people in the audience said Gregory's book, *Making Films Your Business*, helped them find a handle on this difficult topic.

Pay Television as an Outlet for Independent Films—What were Loreen Arbus and Jane Gibbons doing at a meeting of independent filmmakers? Just a year or two ago, that question might have gotten a less definite answer. Up until now, people have been speaking about the potential of pay television. Now they talk about the reality.

Arbus, speaking for Home Box Office, and Gibbons, representing Showtime Entertainment, both told the audience that significant markets for their products are evolving.

Showtime is like a new network in terms of its ability to consume products, Arbus said. The pay channel is on the air 12 to 14 hours daily. While feature films make up the backbone of the schedule there are important developments involving the origination of other programs for Showtime. She also pointed to an unrelenting appetite for short fillers that

can be used to program air-time between scheduled films.

Gibbons told the same story. Just eight years ago, Home Box Office started with 365 subscribers. It is now targeting on seven million prospects linked to cable systems, and anticipates that market could nearly double during the next several years. While the main part of the program schedule consists of feature films, HBO is producing a number of original shows, and there is a growing interest in "narrowcasting". She defined the latter as short films catering to special interests.

"All of us are going to be in a situation where we will be competing for subscribers," Gibbons said. "We are trying to figure out what we have to program to convince people that it is worth writing a check to us every month." Gibbons added that HBO is interested in seeing all kinds of films, variety, documentaries, sports and retrospects, of all lengths as possible programming material.

Interacting with Management Goals—The emerging technologies of the 1980s and their impact on business and industry are going to create new demands for audiovisual communications, said Malcolm Snyder, who heads one of the nation's oldest and largest (with 65 employees) in-house corporate communications departments. The new technology is going to present real opportunities for increasing productivity and for global marketing, and both of these and other developments will require new levels of efficiency in improving communications.

That was the good news from the former IFPA president and current executive chairman. The bad news was what he labeled a lack of leadership in guiding the use of AV media so that it solves business communications problems.

"Senior AV personnel are not communicating with their own managements," Snyder said. "In many cases, they are not even speaking the same language. We have the capacity to be very effective and influential, but many of us haven't learned how to use our influence. In order to interact with the goals of management, you have to be involved in the process of long-term goal-setting, and you have to be flexible and willing to change if that is what's necessary."

Snyder pointed out that most companies appointed audiovisual managers long before they established data processing departments. Yet, data processing managers in most companies have now advanced into the top ranks of management, leaving audiovisual communicators behind. "That's because they learned to speak the language of management. They are helping their

companies establish and meet long-term goals," he said.

Snyder predicted a similar breakthrough for film/video communicators during the 1980s. "Once we prove that better communications can make a big impact on productivity, more of our AV managers will advance into the top ranks of management."

The Making of a CINDY—"Are there any questions?" asked Joaquin Padro after showing his 12-minute Best of Show CINDY-winning film *Survival Run*. There were plenty. However, the one question that ignited applause was "Can we see the film again?" Padro obliged at the end of the workshop, and not a single person left.

Padro was born in Spain where he began his career initially as an assistant director. He moved to London, working for Hammer Films, and then on to San Francisco, where he established Magus Films several years ago.

Survival Run started with an idea. "There were 30 million people running in this country, so I felt that there was a market for a film dealing with the feelings and emotions of this sport," he explained. The problem is that running is boring to watch. Padro was stuck at that impasse until he heard about Cordellos and his running companion. That provided a human interest angle. Cordellos had competed in more than 50 marathons, and was preparing to run the grueling 6.7-mile Dipsea race that crosses a mountain, descends to the sea, traverses rain forests and ravines. He developed an idea for doing a very visual film documenting the interactions of the two men running the course. There would be no narration and an open-ended conclusion that allowed the audience to sort out their own feelings and emotions.

Padro spent the next eight months trying to sell his idea to 60 different potential corporate sponsors. There were no takers. Still he was determined. Padro took his concept to private investors seeking tax shelters and profit opportunities. He laid out his strategy for producing the film, and then entering it in various competitions to build a reputation and a market for it. He got his money.

Production and post production lasted two years. The film actually uses footage exposed in two separate Dipsea races a year apart. There were also staged scenes filmed with volunteers to provide certain angles that Pedro wanted.

In the end, he recorded some 20,000 feet of Eastman color negative II film 7247 using cameras mounted in a helicopter and a follow car. During the second race, Pedro used 12' precisely placed cameras to record the progress of

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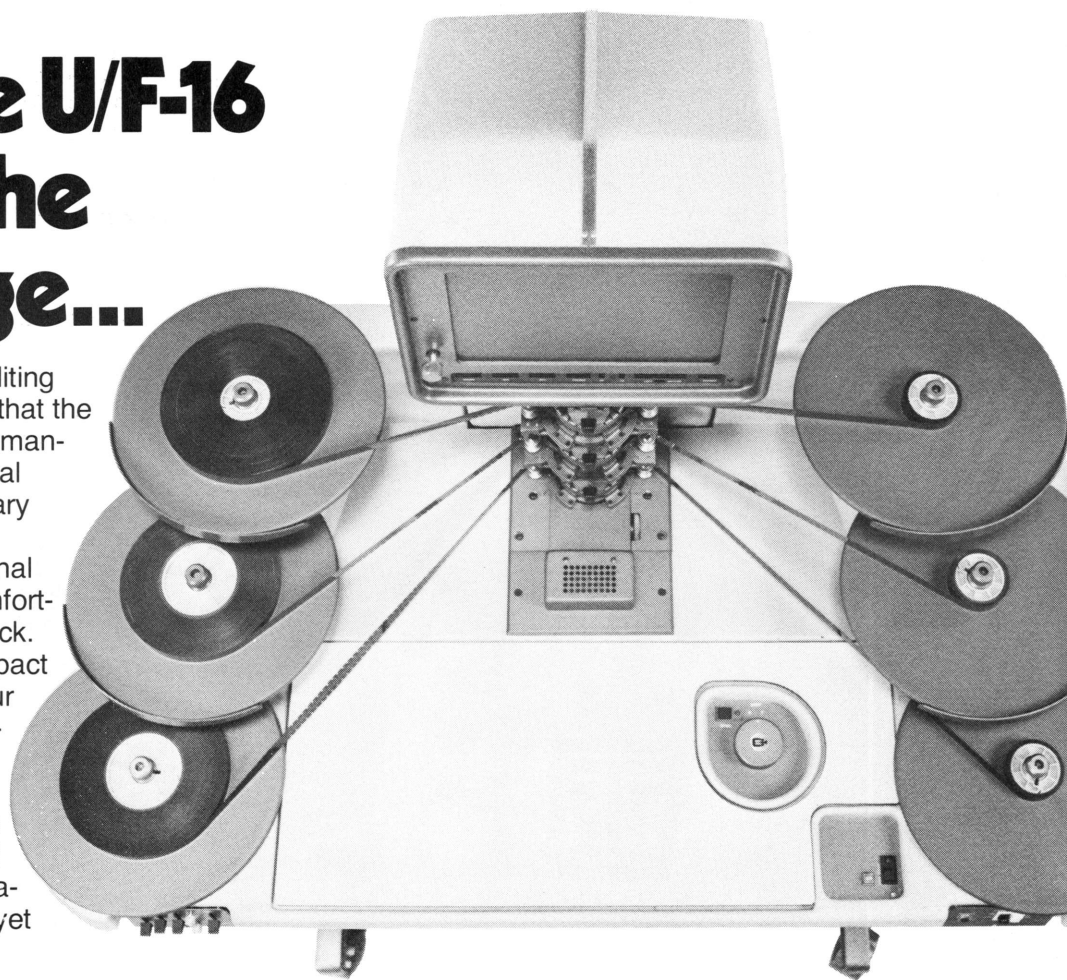
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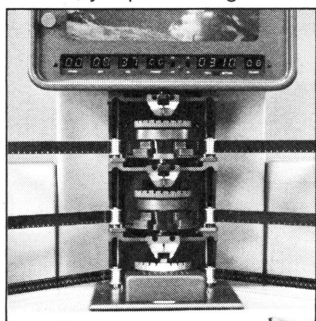
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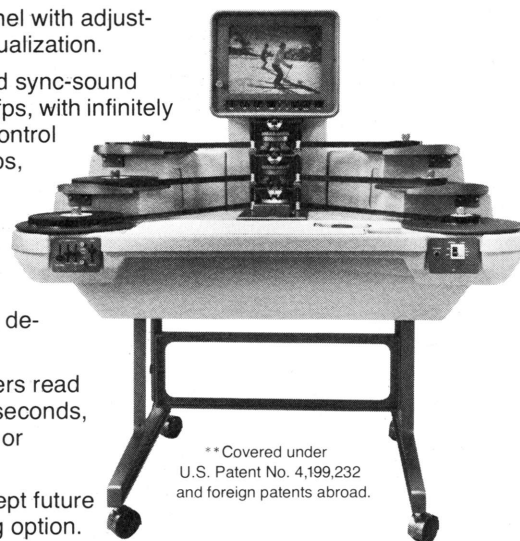


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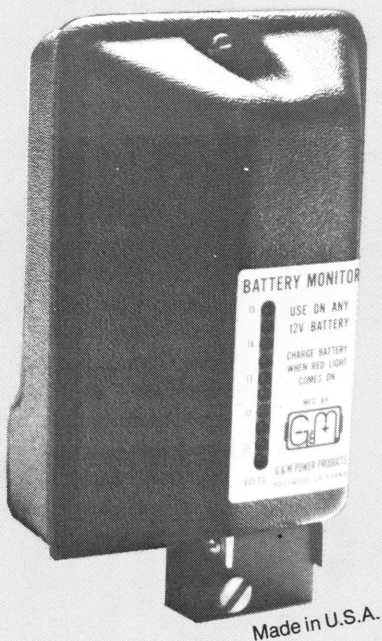
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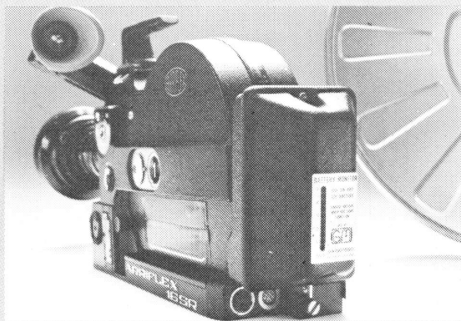
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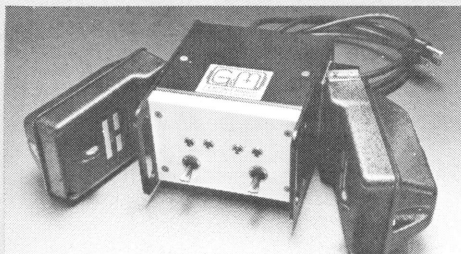
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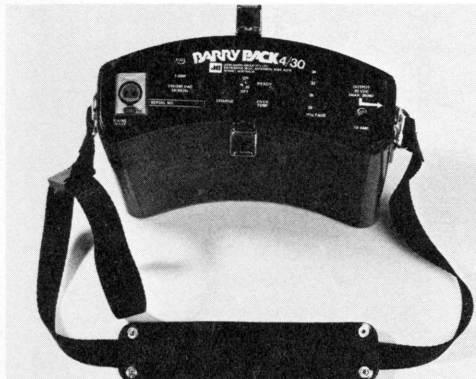


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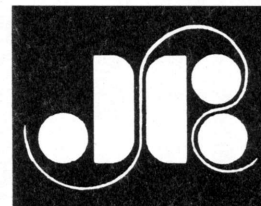
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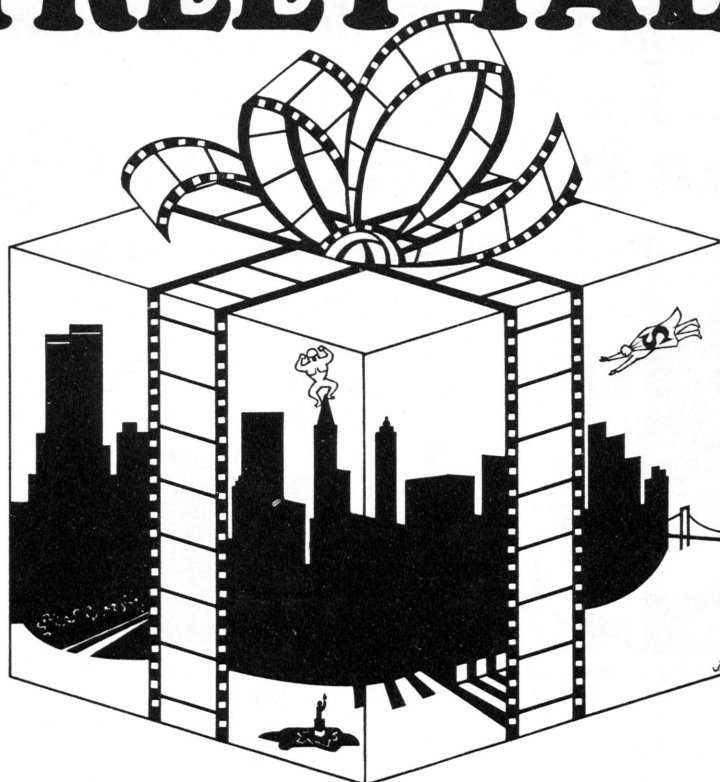


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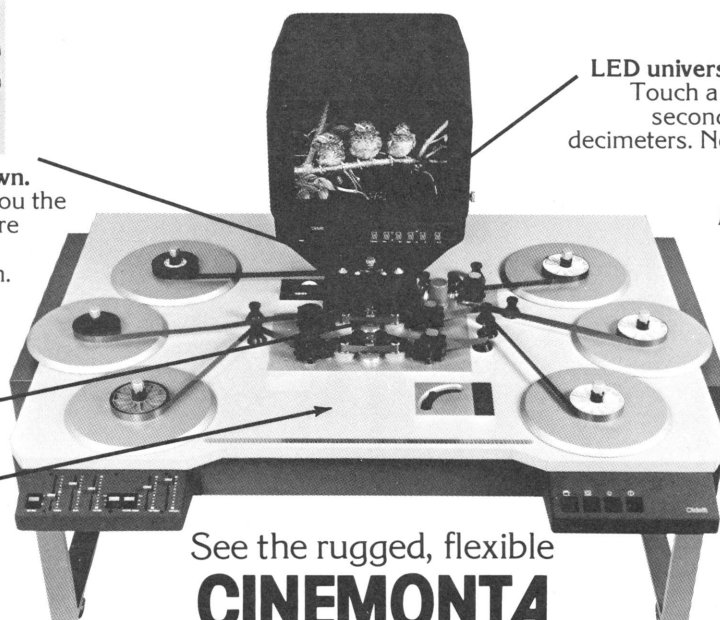
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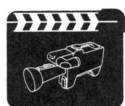


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Cordellos and Restani. "We carefully timed the race so we knew exactly where and when everything was going to happen," he said. Both runners were wired for sound. There were also Nagra recorders set up at various intervals to record wild sound. In addition, computer-generated processed sound was created in the studio to fully orchestrate the visual footage.

The film was completed last January, and then Pedro entered the second stage of his plan for turning it into a profit-maker. Prior to entering the CINDY competition, *Survival Run* earned nearly 20 other awards at various film festivals and in other competitions.

The results? Padro has sold some outtakes to various producers, and there are several companies vying to sponsor *Survival Run*. Padro is selecting them very carefully to make certain that he and his investors get a maximum return. He is also negotiating with several companies interested in sponsoring other sports films. However, the biggest breakthrough is a strong possibility of a two-hour made-for-TV movie based upon the life of Cordellos.

The Film-Video Union—The conference room was nearly empty when this session started. The panel included outlined the emerging film/tape transfer technology, and described each step in the process of video post production, as well as other implications. Also on the panel was film producer Martin Tahse, who described and illustrated the use of the film-to-tape technology for creating *After School Specials* for ABC television. It didn't take long for word to spread that something special was happening. The room was filled in no time.

People have been transferring some film to videotape for post-production or delivery for more than a decade. However, the concept received a big boost during recent years with the introduction of the Rank-Cintel MBIII color telecine to the American marketplace. This flying spot scanner uses a capstan drive to move film past a raster which copies the images onto videotape. Because of the smooth, easy operation of the scanner, more producers are using their original film for this process, leading to the making of very high quality tape duplicates, while trimming post-production time.

"It's more than a marriage of convenience," said Bruehl. "It's affecting the attitudes of many people who no longer describe themselves as film or video producers. They are now image creators. Decisions regarding origination and post-production are now more likely to be

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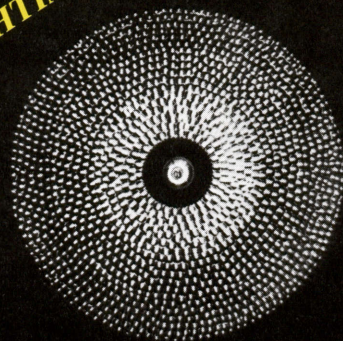
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geared to the creative and budget requirements of the project."

The first Rank-Cintel flying spot scanner installed by CFI is being used two shifts daily, and a second unit is now in place. Industry-wide there may be as many as 50 of the flying spot scanners in labs, and post-production houses by year's end.

West described film production procedures necessary for this interface. "It's totally flexible," he said. "People are originating 16mm and 35mm film. We are working from original negative and positive, CRIs and interpositives."

Applications range from commercials and inserts for "reality" programs, to full-length TV programs (e.g. *Lucy Moves to NBC*). West described work being done for a syndicated news magazine. "They are providing us with 16mm prestriped negative. We process the film and run it through the flying spot scanner in the fast forward mode. They copy every frame of film and do all post production on videotape. They will probably never have to refer to the film again."

Another example, is a comedy act being filmed for Home Box Office. The producer is originating on 35mm color negative, and transferring to video for editing. This allows the producer to participate in the editing process while looking at images on video monitors.

This is the kind of a program that has frequently been originated on video to save costs and post-production time. "Our experience is that there are no production savings from video origination," Bruehl said. "However, time and money—as much as 15 to 20 percent—can often be saved by doing post-production in video when this is appropriate."

This allows the producer the flexibility and creative latitude of origination on film, while still having the option of editing and delivering tape. Furthermore, the film can be conformed to the tape edits for theatrical or other release.

Schneider and Virnig discussed electronic visual and sound editing, admitting that there are still some limitations, but they believe progress is happening at a rapid pace.

Tahse explained that he came to Hollywood in 1973 from the "live" theater in New York. "I wanted to do some selective TV programs," he recalled. Tahse submitted a story to ABC. Five months later his agent called and said the project was sold if it could be aired in two months. "I didn't have a script, cast or anything," he said.

What he did have was a suggestion from CFI for originating on 16mm color positive film, and transferring that to tape for post production. The concept proved

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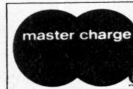
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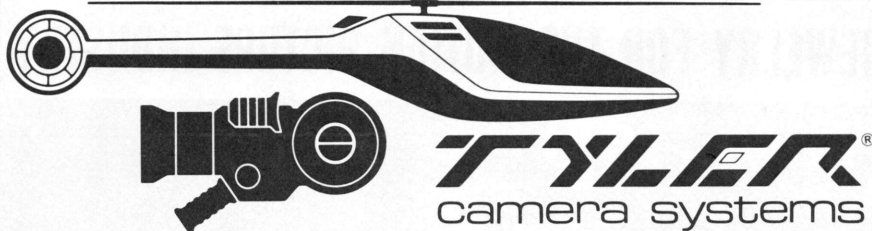
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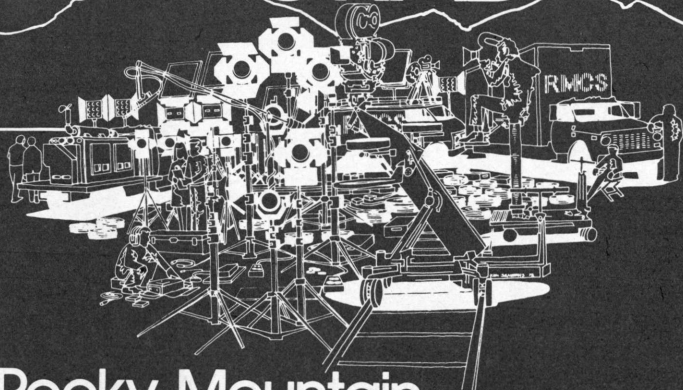
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out and Tahse has subsequently produced many ABC *After School Specials* using this method. The introduction of the Rank-Cintel flying spot scanner is a big qualitative jump forward, he said.

"I shoot about a three: one ratio and transfer every frame of film to tape," he said. Tahse and his editor review the tape off-line while creating sheets of time code numbers keyed to scene descriptions. "This does a lot to speed up our editing," he said.

"I get a rough cut of a 60-minute show in around six days," he added. Fine editing takes around another three weeks. Tahse estimates that post production savings run around \$10,000 to \$15,000 a show.

Once the videotape is ready, he can then conform the film and make 16mm prints for distribution to schools and overseas.

There are also creative implications. Tahse pointed out that the time saved in post production has allowed him to film scenes that he might not have otherwise tried. "I remember one film where we shoot a single 1½-minute pivotal scene for eight hours. The time that we saved by transferring to tape for post production gave us the edge needed to do that," he said.

Corporate Communications and the Recession—Everyone is talking about the recession, and its possible impact on film/video communicators including a panel of four industry experts who addressed that topic at the IFFA conference. They were Don MacIsaac, IBM Manager of Promotional Operations, Tom Martin, Federal Express Media Development Specialist, David Skolnick, Levi Strauss & Co. Media Development Specialist and Lynel Perry, Occidental Insurance Assistant Vice President. In the past, recessionary cycles have spawned almost automatic reductions in film/video communications budgets. What about the present? Levi Strauss & Co. puts a high enough premium on employee communications and the value of visual communications for training to have invested in an international network of more than 100 videocassette players. However, the company only has limited production facilities and capabilities. It looks to outside producers to fill the gap in providing software that can do the job, Skolnick reported.

Founded in 1973 based upon an idea that originated on a college term paper, Federal Express now reaps annual revenues of around \$1½ billion. A key to the company's success has been a very high level of employee performance. "We have 8,000 employees nationwide who want to know what's happening," said Martin. "We consider the need to keep

them informed to be a top priority." Effective distribution of relevant information can positively affect productivity and job performance. As a result, the company has established a network of some 150 videocassette players. The first tape distributed told employees how the firm's management views the recession, and what plans it has to assure steady growth. So far, Federal Express is doing all of its own production.

"We sponsor and produce quality films for institutional and motivational purposes because it reflects well on our company," said MacIsaac. "We have been involved in a very broad institutional film program with distribution ranging from airplanes to theatres, schools and television. There is also a network of some 2,700 TV monitors available for reaching our own people."

MacIsaac said that institutional production budgets constricted by as much as 25 to 30 percent in 1980. "But maybe that's because we didn't do an adequate job of proving how well we meet our objectives." He cited a study showing that institutional films cost IBM approximately 6.4 cents per viewer, and there aren't many better media buys than that, especially when you consider the potential impact of a well-conceived film.

MacIsaac anticipates a "great year" in 1981.

"We're actually spending more money on film," said Perry. "And this is just the beginning. With the coming of more cable connections and home entertainment centers, information films and tapes are probably going to become a much more important part of business communications," he predicted.

"If you want to reach people today, your own employees as well as the public, you've got to use visual media," said Martin. "People simply don't have the time or the inclination to read everything needed to keep informed. They are used to getting information from television."

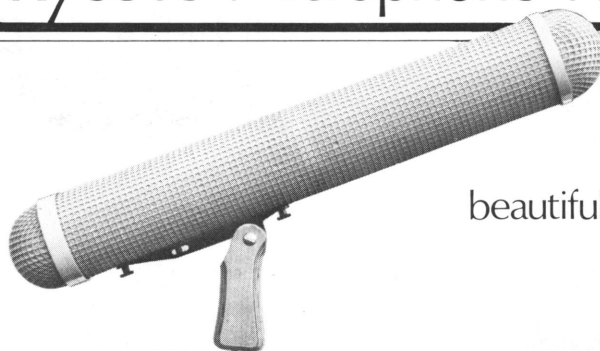
The verdict? The recession is causing some belt-tightening, however many, if not most, larger companies are convinced that effective visual communications can help them do a better job. Much of the software needed by these companies will be produced by independent film and video communicators. However, there is still much work that has to be done to establish a better dialogue between filmmakers and users. ■

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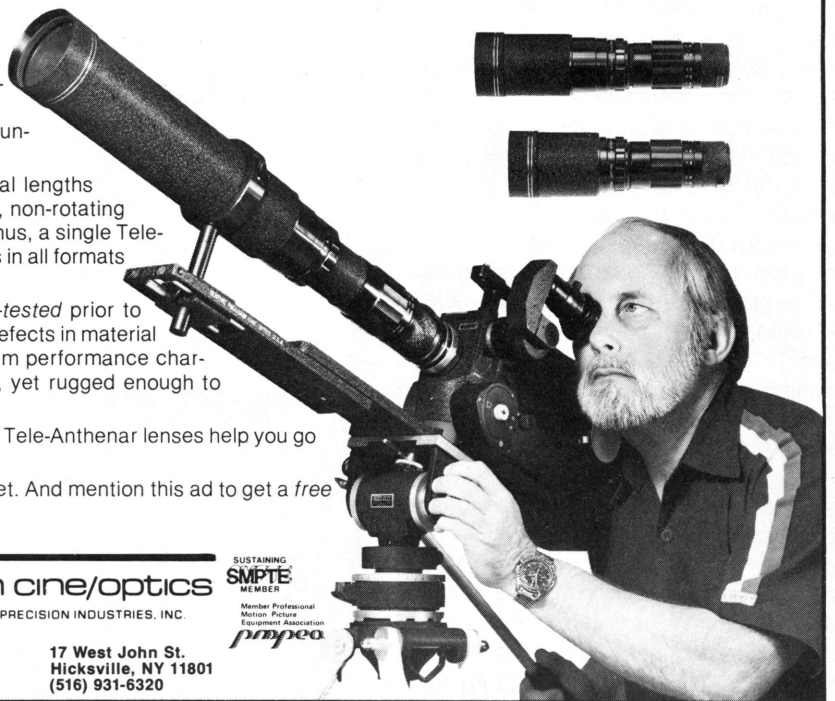
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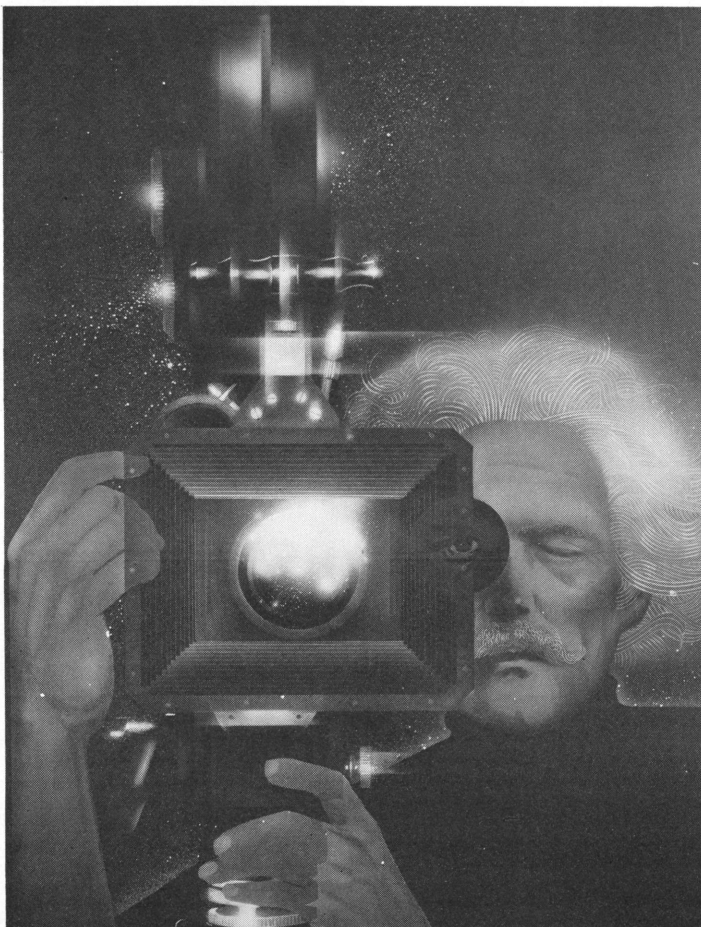


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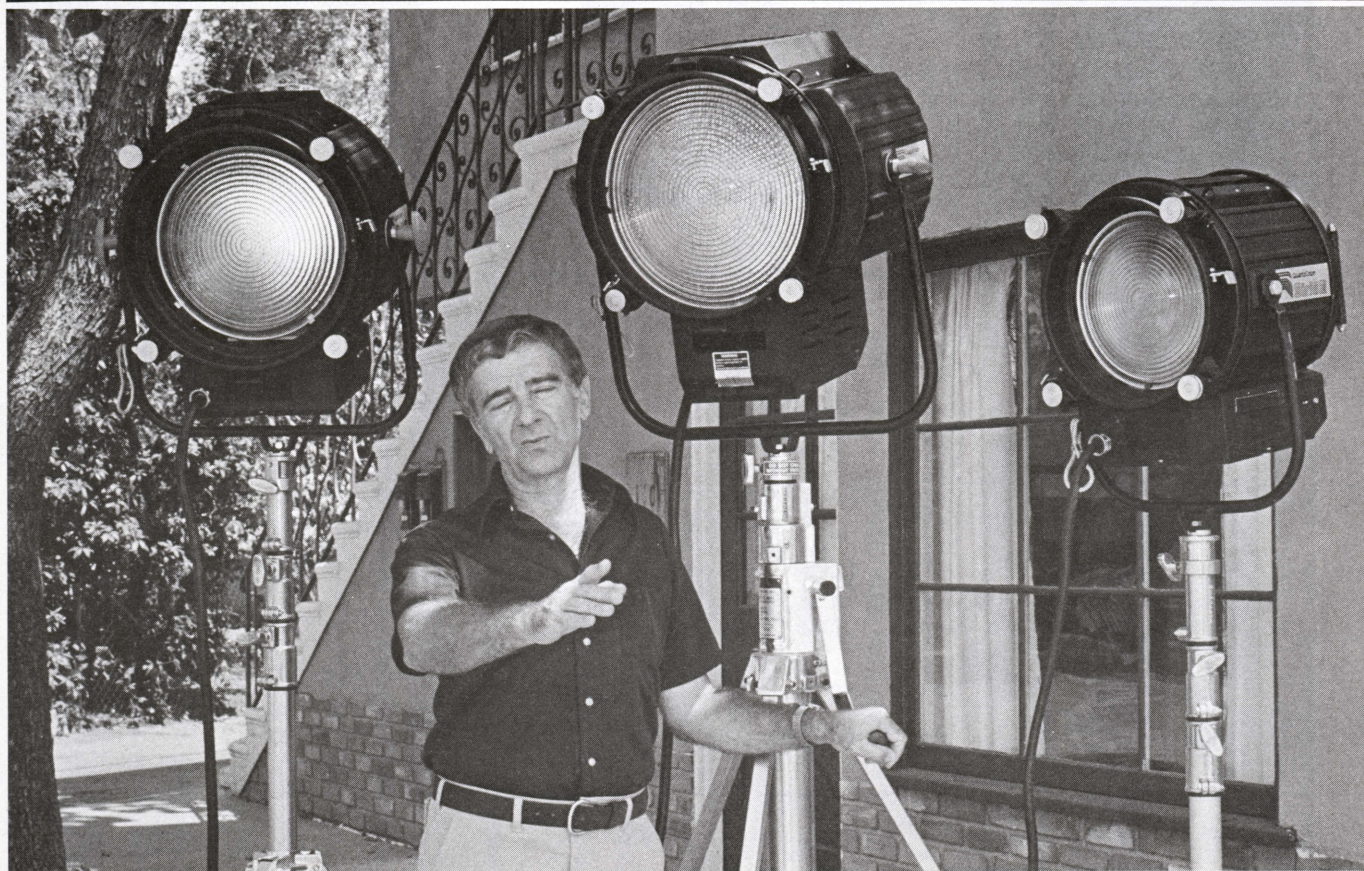
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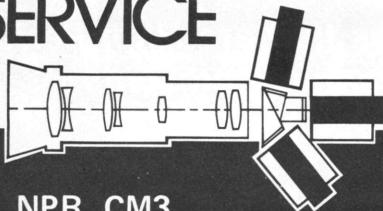
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CINEMA WORKSHOP

Continued from Page 1098

manufacturer does this to insure that the home viewer, "God forbid", will never have to encounter those sinister black blanking areas that surround the transmitted picture. This black area that surrounds the picture is deemed so repulsive that manufacturers add from 9% to 15% of horizontal overscan to make absolutely certain that the viewer never need be subjected to the horrible sight of blanking area even under the most adverse conditions such as "brown-outs" or low voltage mains. Assuming proportional amounts of vertical overscan yields a picture area loss of from 15% to 25% in addition to the loss due to the wide-screen format being cropped. In other words, even an old vintage movie shot in the 1.33:1 format will lose 20% to 30% of its picture area by the time it gets to the home screen. Thus, you only get to see 70% to 80% of your favorite old movie on television. If this sounds like you are getting cheated, you ain't seen nothing yet.

Meanwhile, back at the wide-screen, this 20% to 30% loss must be added to the losses suffered by cropping the wide format back to 1.33:1. The final score may be shocking. The figures in CHART 1 are based on the "TV Safe Action Area" and "TV Safe Title Area" convention, as standardized by the broadcasting industry. The "TV Safe Action Area" represents a horizontal overscan of approximately 11%, which is about average or a little better than average for most home receivers. The "TV Safe Title Area" figures represent a "worst case" overscan condition. Most home receivers will fall somewhere between these two figures, more likely closer to the safe action area. (A small minority of sets may even exhibit losses slightly less than the TV Safe Action Area figures.)

In actuality, if a recent movie was shot 1.85:1, the home viewer is seeing only 41% to 53% of the movie he would have seen projected in a theater. The figures are worse for Anamorphic (Panavision, CinemaScope). Here the viewer only sees 32% to 41% of the theater projected image, but the *coup de grace* is dealt to Ultra-Panavision 70, where the television screen allows the viewer only a mere peak at 28% to 35% of the theatrical image, missing a good two-thirds of the film as it was projected in theaters.

In practical terms, there are many techniques that the broadcasters use to offset these losses. Major films are reprinted in special TV versions where the action is optically followed like a pan. Or a wide-screen "two shot" may be cut into alternating left and right "one shots".

Moreover, many films shot with TV distribution in mind employ a full-frame camera aperture with both 1.85:1 and 1.33:1 markings in the camera viewfinder. By keeping all pertinent action within the 1.85 markings, yet keeping the 1.33 area clean of microphone booms and the like, the final print can be used for 1.85:1 theatrical distribution, as well as TV distribution, without any additional cropping. Most cinematographers do not like to shoot with this technique and prefer a hard 1.85 matte in the camera. The hard matte precludes composition errors that could occur if a projectionist or optical printer does not center the frame properly. In any case, all these techniques bastardize the original integrity and mood of the film and, while it may make the film easier to view on TV, the percentage of missing image remains almost the same. If 50 girls are in the chorus line of a CinemaScope picture, the home viewer is only going to see 20 to 25 of them any way you slice it.

So that's why I never watch recent movies on TV. I figure that since I will have to go to the theater to see the other two-thirds anyway, I might as well see the whole thing in the theater at once. Besides, that little box in my living room ain't nothing like the Big Wide Silver Screen. Popcorn anyone? ■

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BEHIND THE SCENES
Continued from Page 1113

cannot), but masks really didn't help much. The effect was mainly psychological. I gave up using the mask after a couple of weeks because I didn't feel that it made much difference in my case.

The same held true for the Fullers earth used on the exteriors. When you inhale that dust it really hurts. I know many people who were coughing on the set for weeks and weeks and weeks and after we finished the picture I was sure that it would take a couple of weeks before we could clean up our lungs. But we really had a great cast and crew. Nobody complained. Everybody did their jobs. Nobody quit. They worked long hours under those conditions. I think they all felt that this picture was going to be something unique—something that you don't make every day. We all felt that we were doing something interesting, something remarkable and so we were willing to make sacrifices.

I myself feel that I worked under conditions that were most unusual for me. I like to see dailies every night. I like to see everything I shoot, but it became impossible after a while because we worked such long hours—15 and 16-hour days. After getting back to the hotel following the more than two-hour trip from the location there was no time to see our dailies. Besides, the dailies were not projected on a big screen, which is the way that I like to see them. They were only projected for Michael on a KEM editing machine. This is a good way for directors to watch their action and their actors, but it is of no help to a cameraman. I can't tell what my filters are doing. I can't tell what my lenses are doing. After this picture was over I firmly decided that I would never accept a condition like this on any other picture, because the cameraman and his crew really do have to see their work on a big screen in order to judge from day to day what is happening.

Some of our interior sets were built in Kalispell, almost in the middle of the town, which has a population somewhere between 10,000 and 15,000. We decided to build these interior sets with windows and exits facing toward the mountains. The Two Oceans Hotel and Saloon was one of our earlier sets and, like most of the sets we built, was used for daylight interiors. Except for two Brutes, we used mostly HMI units to light the interiors. HMI lights are very handy for big interiors like this because you don't have to filter them. They have a very accurate 5500° Kelvin color temperature. By using six or eight of the big units (2500 watts or 4000 watts), we could actually light almost all of the interiors. We could create the sun-

shine effect through the smoke, because the fresnel lenses on the HMIs helped to make the light rays visible. You could not do this with softlights or uncontrolled sources such as Masterlights or quartz lights.

For the night interiors, of course, we used the more conventional Mole-Richardson spotlight units with fresnels and we used a tremendous number of Babies and inkie-dinks in different places in order to create that contrasty, available light look, especially in the sequences where there were kerosene lamps put up here and there in the bunks which went up to the third story level in the Two Oceans Hotel.

The style for the lighting was basically the same as that which I have always used in my past pictures: it had to be realistic. Where there is a light source, there is light; where there is no light, there is darkness. But, of course, the eye wants to see in the dark, so we used just a little bit of fill light in the darkness so that we could bring up the shadows, and flashing the negative also helped to do that. To create the naturalistic look of a lantern is sometimes very difficult to do and many times we hid a little quartz globe behind the lantern, so that when people were walking by they were illuminated by it from the right direction.

My easiest interior to shoot was the rollerskating rink, where we only had daylight sequences to film. It was a huge set—about 160 feet long and 60 feet wide—and we had between 300 and 400 people in it. It would have been a very difficult task to light this set realistically, so, after discussions with Michael Cimino, we decided to shoot it in available light. As a result, the set was built with a canvas roof and we painted the canvas with some sepia-tone paint in

order to create "antique" images, but we used no artificial light at all in any of those sequences. It was interesting, because we had sunshine, we had overcast, we had sunshine going into overcast. When there was a light change, we changed f-stops and when looking at the dailies I could hardly tell the difference—which means that by just exposing for the incident light, we could maintain the consistency of the images from morning until evening. This is probably an old-fashioned technique; oldtime still

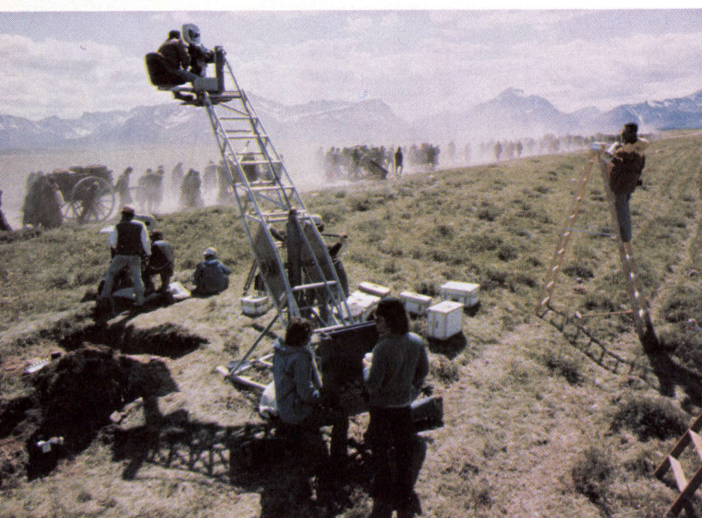


(ABOVE RIGHT) The Little Big Crane booms up during a moving camera shot through the five-foot-wide corridor of the immigrants' cramped quarters in the Two Oceans Hotel. **(BELOW)** Vilmos Zsigmond, looking a little like Casey Jones in his railroad cap, and Michael Cimino discuss an upcoming scene between set-ups.





(LEFT) Although he lost some 20 pounds during the production of HEAVEN'S GATE, Vilmos Zsigmond managed to retain his cheery disposition. (RIGHT) During shooting at a lake in East Glacier, Montana, a telephoto lens shot and dolly shot are lined up at the same time. All equipment had to be hand-carried in from a road a half mile away. (BELOW LEFT) The Little Big Crane captures a panoramic shot of immigrants on the move. (RIGHT) Filming at the railroad terminal in Wallace, Idaho.



photographers used to have in their studios skylights with curtains over them and they controlled the amount of light by opening and closing the curtains.

The brothel (called "The Hog Ranch") and Champion's cabin were built about 80 miles away from Kalispell on the actual location, because we wanted to incorporate our shots of these buildings, both interior and exterior, with the surrounding mountains. As a result, we were shooting interiors in these sets just like

we would be shooting in actual buildings on location. We didn't have any real wild walls built into these structures, but when we wanted to make a wall wild we just cut it out and later on we put it back.

Of course, these sets had their limitations, but I feel that such limitations force you to creativity, because you just have to shoot what is there. You may wish sometimes that the Art Director had built those sets much bigger and with wild walls, but if you have all that luxury you

suddenly realize that the images you come up with look like they were shot on a movie set.

Shooting daylight interiors is a challenge because you have to balance your windows with the interior lighting and many times use some neutral density filter material covering the windows in order to keep the balance. I don't like blown-out windows. I always try to see through windows just as the eye sees

Continued on Page 1172

(LEFT) A scene of Kris Kristofferson arriving at the Two Oceans Hotel during the Magic Hour. The warm artificial light simulating kerosene lamplight contrasts effectively with the cold light of the natural exterior background. (RIGHT) Christopher Walken strolling through the Two Oceans Saloon. The moody atmosphere was created through the use of smoke with shafts of light beamed through it.



ON LOCATION

Continued from Page 1108

Would I?

Readers of *American Cinematographer* know that I don't need much urging to get behind a camera. In this case the camera will be a Panaflex with an anamorphic lens.

I can't wait until morning.

First Day On the Set

Morning comes pretty fast. Up at 4:30 a.m. and in the van an hour later, we jounce along for what seems an interminable length of time over rough logging roads, until we turn off into a country lane and ultimately into a vast clearing hemmed in by mountains. There, in the cool, crisp dawn, members of the crew

are busily rigging everything that will be needed for the day's shooting. I keep thinking about the "normal" people, sleeping in on this Sunday morning, or perhaps stirring just long enough to wonder whether they should drag themselves out of bed and go to church. But for a film crew on location, the place to be—Sunday or no—is where the action is. And here we are, on land of the Blackfoot Indian reservation, ready for action.

I know quite a few of the crew members from close encounters on other sets and locations and they come over to say hello and welcome me aboard. Film technicians are part of a special family and I have yet to walk onto a set, at home or abroad, without knowing someone on the crew. It's a warm feeling.

Michael Cimino is on the location quietly supervising the rigging of the stunt he wants to film this morning. He looks fresh and rested. A slight figure in this larger-than-life *milieu*, in his own quiet way he towers above everyone on the set.

While I munch a bacon and egg sandwich from the catering truck (the hotel doesn't serve breakfast in the middle of the night), the wranglers are busy hitching a team of horses to a wagon and the special effects people are rigging it so that the horses will break loose from the wagon as it crosses a small bridge. The script calls for the wagon to go off the bridge, propelling several people into the water below. They will be stunt doubles, of course, but I don't envy them the trip over the side.

Vilmos sets his cameras and then briefs each of us operators on what he is to do. I can't believe that he has given me the main camera position—a low-angle, head-on shot of the wagon as it comes across the bridge. Two lusty lads are positioned just behind me. "We're here to pull you out of the way in case the horses decide to trample you," one of them tells me. Very reassuring, but what about Bob Gottschalk's Panaflex?

Vilmos tells me that the detached team of horses will charge directly at my camera. Then, at the very last moment, they will veer off to the right and I will pan them around. Priding myself on smooth camera movement, I practice my pan again and again. It is a spine-twisting maneuver, but I keep telling myself it will help get me in shape for ski season.

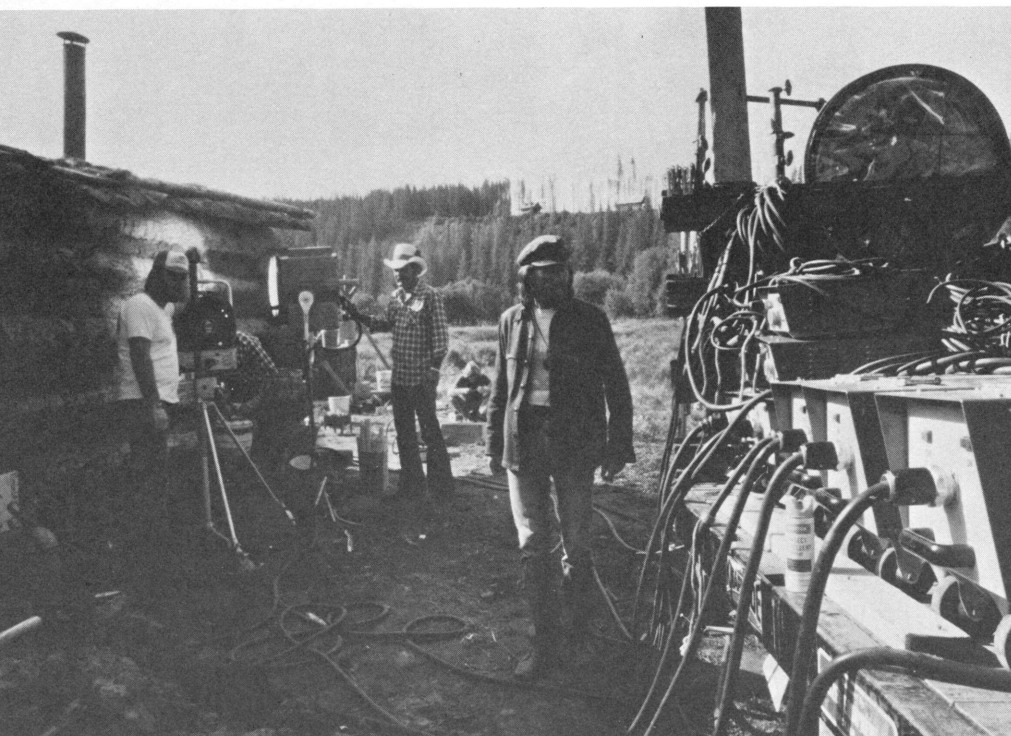
The cameras roll. The wagon starts across the bridge at a lively clip. The team disengages at exactly the right moment, plunging straight for me. The wagon goes off the bridge and the stunt people splash into the water. At the last moment, the free-running team of horses veers sharply to the right, missing my tripod leg by a hair, but I keep them nicely framed on the pan, despite the horrendous cloud of dust that is kicked up.

Everything is backed up again and, in the end, five takes are made before Michael is satisfied. My part of it goes smoothly and the lusty lads standing guard don't even have to haul me away like a bag of laundry to keep me from being trampled by the horses.

"This is bigger than lunch!"

The next morning we are in a different location, the site of the horrendous climactic battle between the immigrants and the mercenaries hired by the Stock Growers Association.

One of the crew members tells me the story which, by now, has become something of a legend. It seems that just after



Vilmos Zsigmond checks the ballasts (foreground) for the HMI lights he is using. (BELOW) The lights are positioned outside the windows of the cabin to provide shafts of light through the smoke for interior filming. American cinematographers, wary of flicker problems, were slow to adopt HMI lights. Zsigmond was one of the first in America to use them—most notably on *THE DEER HUNTER*.



the film started shooting in the location, on a day when Michael was up to his ears trying to precisely position a cast of thousands and hundreds of wagons for an upcoming scene, a well-meaning Production Manager came up and reminded him that it was time to break for lunch. Turning to him with an icy stare, Michael supposedly said to him, "This is bigger than lunch!" That phrase quickly became a motto for the production.

But so it is—bigger, not only than lunch, but breakfast and dinner and midnight snacks, as well. This crew has been on location for six months now, through freezing cold and broiling heat, working 14 to 16-hour days and spending another five hours daily traveling to and from the locations. Because of all the meal penalties, force calls and overtime, they are, of course, making a fortune, but a sign tacked up on the prop truck tells the story: "The money's great—if we can last".

Somehow they *have* lasted. Nobody has quit. They are all hanging in there, still giving their best, with a dedication that goes beyond paychecks and egos.

Laszlo Pal arrives on the location for a visit. He is a Seattle film producer, ace cameraman and one of the guiding lights of the Motion Picture Seminar of the Northwest. He is also an all-around nice guy and an old friend of Vilmos—who promptly commandeers him as a "guest operator" and puts him behind a camera.

The situation we are filming today is akin to the classic pattern which has the pioneers corralled within a circle of wagons, while the Indians race around them on horseback, attacking with bows and arrows, guns and what have you. This

A jumble of horses and wagons await their turn before the cameras. More than 2,500 extras were used in the making of HEAVEN'S GATE.



Producer Joann Carelli, Michael Cimino and Production Manager Charles Okun brave the snow, just one facet on Montana's instantly changeable weather—although consistent sunlight prevailed throughout the many days needed to shoot the battle sequence. Every scene in HEAVEN'S GATE was filmed on location, without a single studio shot.

time it is the mercenaries (clad in fedoras and long dusters) who are in the middle, with the immigrants in their wagons riding in a circle on the attack.

My camera angle is, again, a low one—right down on the ground, to be specific and my lens is trained on a spot where a spectacular stunt has been rigged. A wagon, as it draws abreast, is supposed to lose one of its huge wheels (at least eight feet in diameter, I'd say) and the wheel is calculated to come spinning directly toward—that's right—*my* camera. In the following cut it is supposed to crash into and demolish a *photographer's* cart. Symbolic?

Again the two lusty lads are positioned behind me and one of them says, "If that wheel looks like it's headed straight for you, I'll throw myself in front of it!" How depressing. I have visions of that stout fellow lying there with a permanent wheel track across his back. Ours not to reason why. . .

In the meantime, the ground, which looks plenty dusty to me in its native state, is treated to several tons of Fullers earth dumped on it. Vilmos tells me, "We're using smoke on our interiors to get the particular effect we want and dust serves the same purpose outdoors. We need lots of it."

They *get* lots of it. During the take there is so much dust that I feel like I'm shooting in Braille. I cannot even see the huge wheel until it looms up out of the dust, headed straight toward my camera. Nobody throws himself in front of it, nor does anybody scoop me up like a soccer ball and drop-kick me to safety. I dutifully pan right with the wheel, as I have been instructed to do, and it misses my lens by

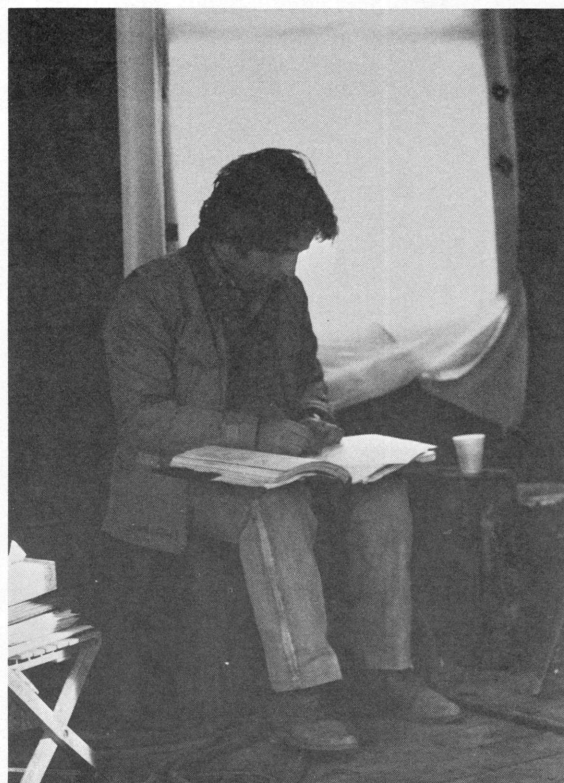
inches.

After about six takes of this I have aged noticeably, but the special effects wizards have managed to release the wheel multiple times with such precision that it hasn't flattened me and has even hit more or less where it is supposed to. In the cut that follows, however, the photographer's cart is demolished prematurely a couple of times and has to be cobbled back together between takes.

As for the dust—it is horrendous. It gets into my eyes, nose, throat, lungs and several bodily orifices I never even knew I had. I have been given a plastic cup to

Continued on Page 1189

The very special loneliness of the film director is obvious in this photograph of Michael Cimino, a solitary figure in a corner of the set, doing his "homework".





(LEFT) Cimino supervises the setting up of two cameras in the roller skating rink, one a Panaflex and the other a Pan-Arri. (RIGHT) The railway station at Wallace, Idaho, with its Victorian gingerbread architecture, remains exactly as it was at the turn of the century, when it was constructed with stone importer from China. (BELOW LEFT) Jeff Bridges appeared in Michael Cimino's first directorial effort, *THUNDERBOLT AND LIGHTFOOT*. (RIGHT) Reunited after *THE DEER HUNTER*, Cimino and Vilmos Zsigmond worked together more closely than ever.



DIRECTING "HEAVEN'S GATE"

Continued from Page 1117

that the faces are very important. You select and place faces as though you were setting individual gems.

CIMINO: All of the faces are important; how each of these people is dressed is important. Each person on the film begins with a specific number (it's actually a wardrobe number) and he keeps it with him the whole time. All of the people are photographed before their wardrobe, after their wardrobe, after they are made up, so that it is possible to do a certain amount of sketching, if you like, of compositions in advance.

QUESTION: How important are locations in the staging of your action?

CIMINO: John Ford used to say that he got all of his ideas from the location. I think that is certainly true for me. It is very hard for me to imagine staging action, large or small, without being absolutely familiar with where I am going to do it. It's where you are going to do it that

really suggests to you how you are going to do it—and that's true of a set that you build, as well as a natural mountaintop or a river. You need to know your areas, which is the reason why I like to spend a great deal of time looking for them myself, and being intimately involved at every single step with the design and the building and the painting and the decorating of everything. There is an ulterior reason for it, in addition to making sure that it is right. Part of the reason is that you simply build up such a familiarity with it that you can find your way in the dark. That familiarity will tell you how to do it. It suggests to you really what should be done. Through a combination of intense familiarity with the locations and a similar familiarity with the faces that are part of the composition, you begin to sketch it and then you fill it in, and when you are actually there, you take it to the next step and the next and the next until finally you can shoot it.

QUESTION: A period piece like *HEAVEN'S GATE* has its own special problems, simply because it deals with a period. Would you care to dis-

cuss that aspect?

CIMINO: Of course, *THE DEER HUNTER* was a period piece, too, but it dealt with a recent period. Particularly in the scenes of Southeast Asia, one could use a lot of what is there even now, even though the action took place ten years ago—but in a film that's set 100 years ago, everything that's filmed must be placed there: every face, every item of wardrobe, every prop, every building, every color. It's all put there by you, so it all requires a specific and deliberate decision. It's simply the time that it takes to do all those things properly and consider the effect of doing it one way as opposed to doing it another way that constitutes one of the differences. If one is doing a contemporary story and shooting it in New York, it's possible to have some immediate foreground action with two characters having a conversation and using a lot of natural flow of events on the street in the distance. In the case of Wallace, Idaho, that doesn't exist, so all of it must be staged. The most difficult thing in making a period film is concentration. The minute one loses con-



(LEFT) A busy day in Sweetwater, the town built in the eastern section of scenic Glacier National Park. (RIGHT) By way of contrast, dancers whirl around a giant tree during prologue sequence filmed at Oxford University in England. Three cameras on a circular dolly track follow the dancers around the tree at a fast pace. The tree, a seven-story giant, was cut into hundreds of numbered pieces at its original site and reassembled in this quadrangle. (BELOW LEFT) A panoramic view of Casper. (RIGHT) A traffic jam in Sweetwater. Details of a typical frontier town were reproduced here with meticulous authenticity.



centration a detail slips by, and if you have one moment like that a day and you are shooting for three hundred days, that's three hundred details that you've blown—and it adds up. I think that an audience does understand on some level when a detail is right or wrong, although not maybe in a conscious way. They will have a kind of accumulative reaction to the reality of an event.

QUESTION: What kind of "look" did you want this picture to have?

CIMINO: Again, I think it's the locations that really tell you how it should look. I don't think you so much start with the notion of a specific look as you simply begin to work on each element of the film in great detail and the look begins to evolve. You begin to work on wardrobe and with the selection of color and fabrics and textures and patterns, automatically a lot of the color of the film is being determined. As you build sets and they are painted and finished and decorated, more of the color evolves—which

is not to say that you don't have a feeling for the look. But one doesn't usually articulate that; it's sort of an underground feeling. It's a feeling more than an objective, specific decision.

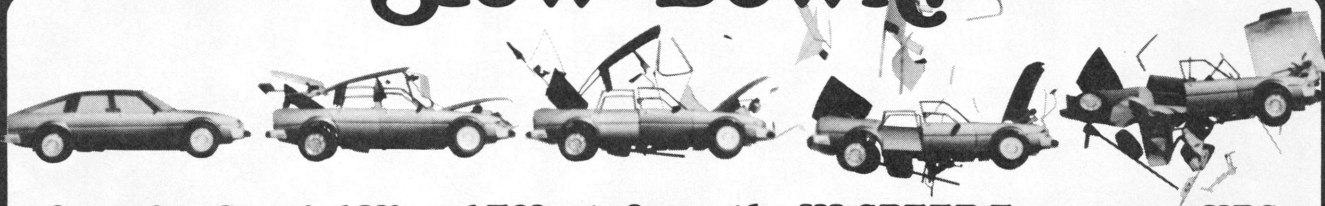
QUESTION: Does that extend also to the natural features of a location?

CIMINO: Yes. Each mountain range has a particular color, a look, a quality. So you pick one mountain range as op-

(LEFT) Hundreds of feet of track are laid for the Little Big Crane to execute a long tracking shot down the main street of Sweetwater. The moving camera was used frequently to capture the sweep of the fast-moving action. (RIGHT) Rapidly turning into an old cowhand, Michael Cimino rides his horse on the location. So delighted was he with Montana's magnificent scenery, clean air and tranquility that he purchased 156 acres of land locally on which he plans to build a home.



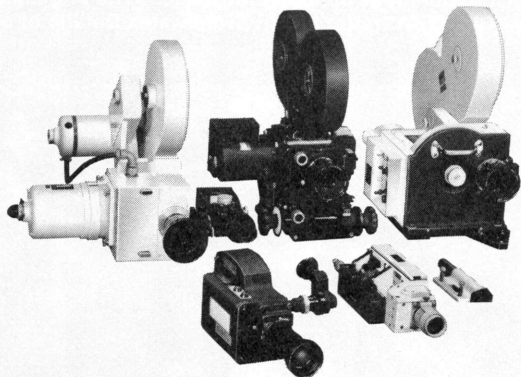
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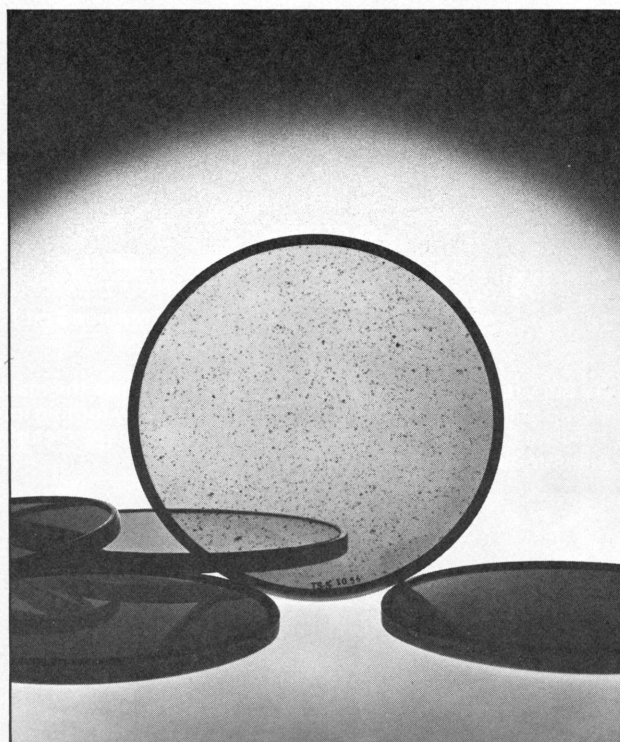
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**INTRODUCING THE
"LITTLE BIG CRANE"**
Continued from Page 1146

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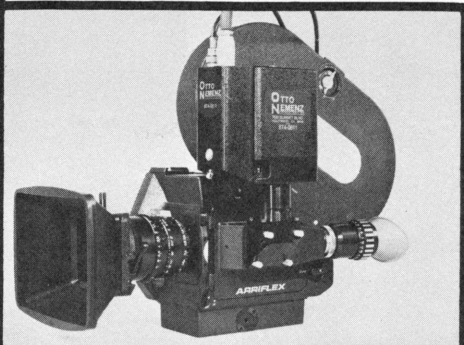
One thing about the crane is that there are no ball bearings in the arm, which makes for much smoother starts, and after a stop it helps hold the arm in an absolutely dead, rock-steady position.

When the crane was taken to England for HEAVEN'S GATE, there was a lot of questioning about why it was necessary to do that. There are cranes in England—some stage cranes and some motorized cranes. The main reason we took it to England was that we were shooting in Oxford University, which has nothing but marble floors or tile floors or slate floors. In a couple of places we were on top of scriptures and prayers that were carved in the floor itself, where, had we been using a normal crane, we probably would have done damage to those surfaces. We used our crane on cobblestone streets that were very, very old. A heavy piece of equipment might have been detrimental to those streets and to the curbs, whereas our crane didn't present any problems, even when we took it into the Sheldonian, which had hardwood floors and probably couldn't have taken a heavier crane. We didn't do any damage to the scriptures or the slate or break the sandstone or cobblestones in any of the places where we were. We shot outside of Christ's Church, where the scriptures were carved in the stone in front of the archways. We arrived there before dawn and had to set up 60 feet of track, assemble the crane, get the shot before sunrise and be out of there before 8 o'clock, which was the time of the first mass at the church. We not only met that time schedule, but we did it with absolutely no damage to the scriptures.

On HEAVEN'S GATE we found that we could transport the crane, all of its accessories and 500 feet of track on a 20-foot low-bed trailer, which, I think, is quite an achievement. The crane was new to the crew on that picture, but they loved it—assistant cameraman Mike Gershman, the electricians and all the grips. They helped set the track and they helped push the crane. The entire crew on HEAVEN'S GATE proved the value of the crane.

Looking back at that assignment, I can say that we made more shots with the Little Big Crane than we ever could have gotten with a larger crane. It was perfect. Also, we achieved shots on HEAVEN'S GATE that could not have been achieved by any other means, by any other piece of equipment known to this industry, by any other crane or dolly or camera accessory.

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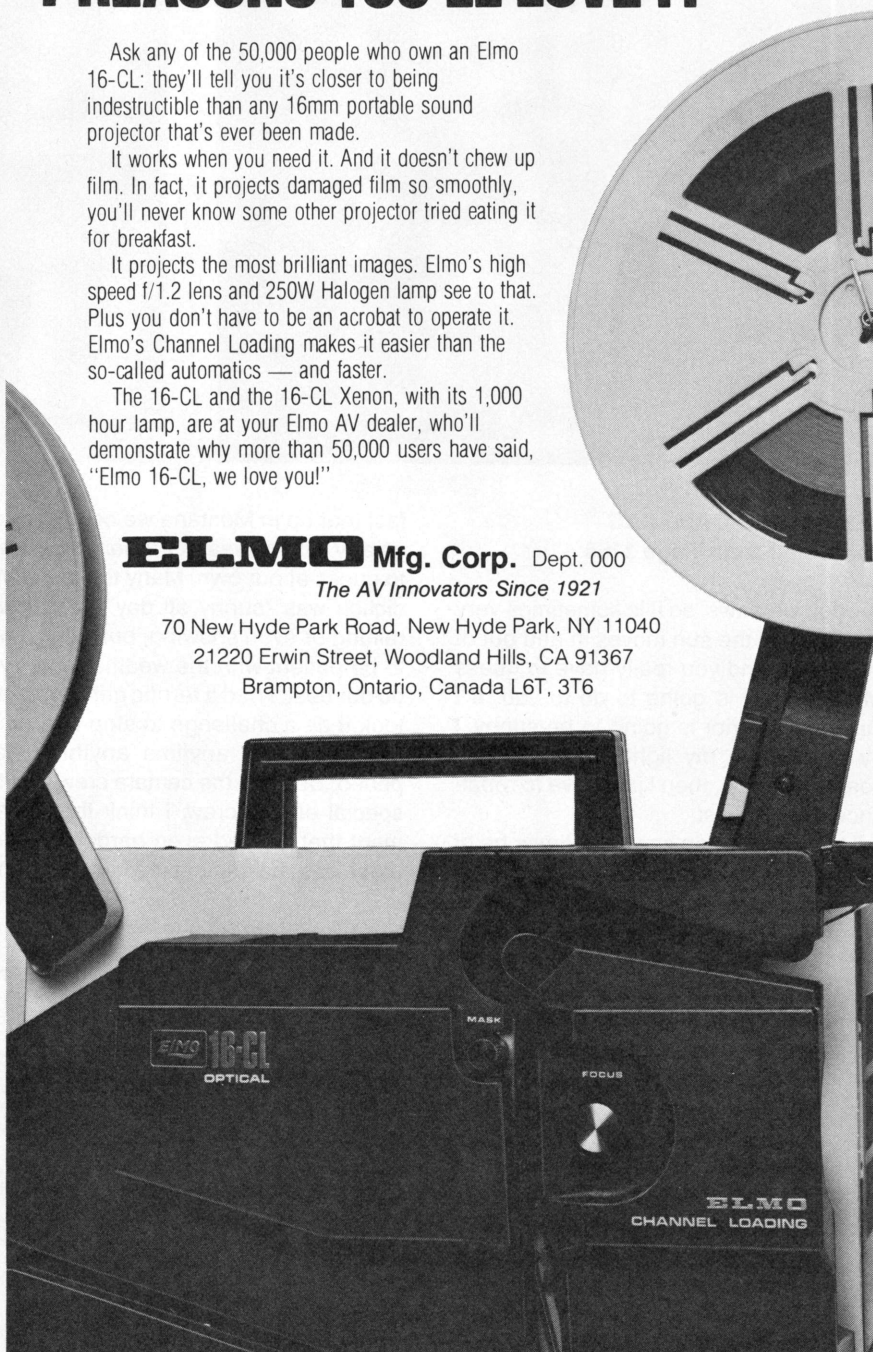
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(LEFT) Isabel Huppert and Christopher Walken inside Champion's cabin. HMI units beamed through the smoke created the shafts of light. The smoke was motivated by the fact that all buildings in the area during that period had a wood stove constantly burning. (RIGHT) Filming in the railroad terminal at Wallace, Idaho. (BELOW LEFT) Zsigmond sets a camera on parallel outside the railroad station. (RIGHT) Shooting at a remote lake where all equipment had to be hand-carried in.



BEHIND THE CAMERAS

Continued from Page 1165

through windows, so it is sometimes very hectic when the sun moves in and out of the clouds and you really have to guess what the sun is going to do to you. If I think the exterior is going to be sunny, I try to balance my light to sun. If that doesn't happen, then I just have to rebalance for overcast.

The weatherman can sometimes be of great help to you, but we found out pretty

fast that up in Montana we could not rely on any kind of weather report, so we had to guess at our own. Many times the prediction was "sunny all day", and it was raining or even snowing, but we just had to be patient with the weather and try to do our best. I had a terrific grip who really took it as a challenge to stop and rebalance the light anytime anything happened. Besides the camera crew and the special effects crew, I think the department that worked even harder than any other was the grip department. They had

to build thousands and thousands of feet of dolly tracks on this show. Because dollying on an epic such as this is necessary to keep up with the pace of the action, it became very important to us in telling the story. We were on very rough terrain most of the time and had to build dolly tracks over creeks and rivers and we had to cut down trees occasionally when the forest was too dense.

Sometimes we had to follow running horses with our dolly and they were moving at a speed of about 20 miles an hour.

(LEFT) Assistant Cameraman Mike Gershman has a go at operating the Panaglide during filming inside the Heaven's Gate Roller Skating Rink. Michael Cimino and Vilmos Zsigmond can be seen in the rafters above, the only vantage point where they would be out of camera range of a 360-degree shot. (RIGHT) Gershman replaces the Panaglide on its stand. The device was valuable in following the movement during filming of the intricate sequence.



Since there is no man who can outrun horses, we had to build dolly track with a special rig of ropes and pulleys and, by using eight to ten people to pull this section, we could get up to an incredible speed on our dolly shots.

We actually built a crane for this show. In conversations with my key grip, Dick Deats, a couple of months before *HEAVEN'S GATE* started shooting, it became obvious that an epic of this scope was going to require something like a crane. I talked to the Production Manager about it, but he didn't really want to rent a crane for the whole show because of the expense. One must remember that this picture started out with an 11-million-dollar price tag, making it practically a low-budget feature in its category, and to have a Chapman crane standing by all the way through the picture would have cost a tremendous amount of money. On the other hand, to have this crane for only a few days or for certain locations only wouldn't really help us, in my opinion.

So we came up with the idea of building Dick Deats' portable crane, which sounded like it would be of more use to us than the Chapman crane would be, once he described it to me. According to his description, it would be a crane that could be assembled or disassembled in any place at any time. You could carry it in pieces up to the top of a building or take it somewhere no other crane could go and you could assemble it in a matter of 10 or 15 minutes.

In the beginning we didn't even dream how important this crane would become to our production. We started using it on our very first interiors when we were shooting inside the Two Oceans Hotel. We came up with the idea of a crane shot, but, of course, there was no way to drive a crane in there. In fact, there was actually no room to build a crane inside of the set because we were showing the entire interior in a 180° angle shot. So we decided to cut off one side of the set (about 15 feet wide) and build the dolly track inside for the crane. Our crane was actually moving on the same track that our dolly was and we made a shot which I don't think I have ever seen done with outside dolly track. We actually made a crane shot inside. Of course, we had to black out the whole area, but Michael Cimino fell in love with that crane immediately. He was aware of the possibilities of what it could do. Since this is a big, but lightweight, crane, it has a more "human" touch than the heavy cranes. It also responds to the guidance of the grip members much faster and much more accurately than a big crane does.

The crane goes up about 18 feet and one time we set it on top of a truck which was 15 feet high, so that it ended up



Period train, shipped in from Denver, chugs along a stretch of railroad track just outside Glacier National Park. Immigrants can be seen riding huddled on top of the cars. (BELOW RIGHT) The Little Big Crane is raised to its limit, right up against the ceiling, for filming of a scene inside the Two Oceans Saloon.

being about 33 feet off the ground. In that case the crane had two cameras mounted on it for a down shot with a lot of special effects, a lot of explosions. It was basically the start of the big battle sequence. In this case we didn't use it as a crane, but rather as a high platform for one operator and two cameras. One camera had a 30mm wide angle (anamorphic) lens on it and the other camera was equipped with a zoom lens. The focus didn't have to change, but the operator himself did the zooming by means of a zoom control.

In the Two Oceans Hotel we built the crane between the bunks and its mobility made possible a couple of shots there that we couldn't have done otherwise. The crane can accommodate two persons: an operator and an assistant, but where more mobility is important then just the operator rides it.

For working with the crane, Panavision built a remote-control device onto our standard lenses so that we could remotely focus or change f-stops. Once we started to use this crane we ended up using it almost every day. We really fell in love with it and even gave it a name—the Little Big Crane.

Some months after filming was completed in Montana, we moved to England to shoot the beginning of *HEAVEN'S GATE*. The first ten pages describe a graduation at Harvard, but we couldn't shoot it at Harvard because the university wouldn't permit any filmmakers on campus, due to some previous unfortunate experiences. At one point Michael Cimino wanted to build Harvard, believe it or not, in Florida, but the costs were



prohibitive, so the decision was made to film it in a part of Oxford University which resembles Harvard as it was in the 1870s. After scouting locations for months and months we decided to shoot the opening sequence there.

Initially we had planned to shoot for three weeks because the opening sequence is a very significant part of the picture; it really establishes the characters. The beginning of a picture is always very important to Michael and he had



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written it with lots of flavor, hence the three-week schedule. But about a week before we started to shoot, the United Artists people refused to approve the budget because it was too high. They gave Michael the ultimatum that he could shoot for one week only—five days—or he could not do the sequence. Of course, by that time it was too late for him *not* to do the sequence, so he examined the schedule and decided that the only way to come up with a good result was to shoot with multiple cameras. After having spent six months in Montana, where we went over schedule and over budget, working 14 and 16-hour days just to get the right film on the screen, we were now confronted with the problem of having to shoot the way they shoot for television nowadays. For me, shooting a big important sequence with four or five cameras was unheard of, but this was the only way we could do it. It was a challenge and we had to pre-plan everything. Michael was terrific about it. He held rehearsals with the actors and on the last rehearsal he brought in all of the operators so that they would get an idea of possibilities for camera angles and following people and all that. This got them familiar with the sequence and later on, when we were shooting, it helped a lot.

We had three different large-scale sequences that we had to shoot. One was outside an auditorium, the Sheldonian, a famous old building. It is a sort of circular structure with very beautiful architecture—really a masterpiece. We discovered that this auditorium was built to be photographed with a 30mm anamorphic lens, and we shot all of our long shots with that lens.

We could shoot inside the Sheldonian for only one day because, since there would be 500 to 600 extras, which would cost a tremendous amount of money, we could not afford to go a second day. We had to pre-light the auditorium without people, which meant that I had only three or four stand-ins to move around from one side to another in order to set the lights, all the while visualizing what would happen when hundreds of people would be sitting there.

Not only did we have to pre-light for one direction, but we had to light for the reverses at the same time, because we knew that once we got the master shots and covering shots in one direction, there would not be time to stop and light for the other direction. The simple fact was that we were scheduled for a 12 to 14-hour day which didn't include a second pre-light for the reverses. So I had to get two sets of lights into the third-floor balcony and light in the two different directions. Since, because of budget restrictions, we could not rent two sets of HMI lights, we

had to make markings on the floor for the lights to move in when we were ready to shoot the reverses. We knew that Michael would have to rehearse that sequence anyhow, which would give us about 45 minutes to move the lights around to shoot the reverses.

There were other problems, too. The authorities hadn't wanted to let us use the Sheldonian because they were afraid we were going to harm the paintings on the ceiling. These were very costly, very important frescoes and I had to prove to them on the pre-lighting days, by turning on all the HMI lights, that after a half-hour the built-in thermometers they have in the ceiling hadn't reached a dangerous heat level. It was because of this danger that I had to use HMI lights. The regular incandescent lights create so much heat that after ten minutes we would have passed the limit on the temperature. So HMI lights became really essential to the filming of that sequence. I think I used about six 4000-watt units, about ten 2500-watt units and about six 1200-watt units. Behind the columns I hid 575-watt HMI lights, which was about as large as we could go without the multiple cameras picking them up. With this array we could actually create some interesting lighting effects on the walls behind the people.

I'm sure that nobody believed that we could accomplish what we did. In England, first of all, they don't believe in shooting four or five cameras—not even on a television show—so they were all really laughing. They thought we would make a pretense of shooting for one day and then end up shooting for two weeks. What they didn't know was that Michael Cimino was really under the gun. He really *didn't* have any more time to shoot it. He had made an agreement with the studio that he would do it, so we did it in one day and, at 10 o'clock that night, we finished the last shot—and that was it.

The next challenge was a whole day of shooting of the band and the students marching through the streets of Oxford in 1870. This was quite difficult to do because we had to put dirt on the pavement. In 1870 they didn't have concrete or asphalt streets, so we had to cover them with dirt. We had one day to put dirt on the streets and another day to shoot the sequence. We had to do it on a Saturday and a Sunday because of the traffic.

We had to rehearse the sequence for a whole day with the actors and the band marching through and they had to prepare cues and certain areas of action were pre-planned like a choreography. They had to know exactly what they were playing from a certain step on and we had to set up the cameras and lay dolly tracks for the crane. Once we knew what we were doing we rehearsed it a couple of

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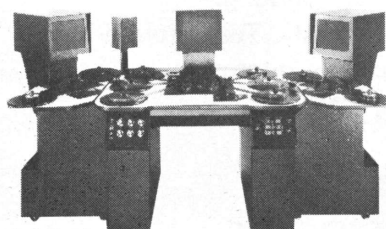


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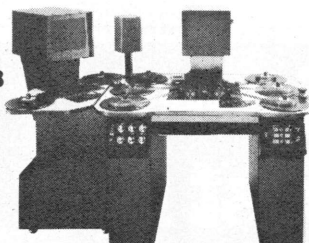
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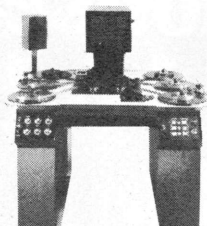
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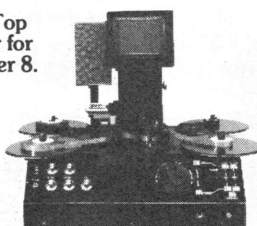
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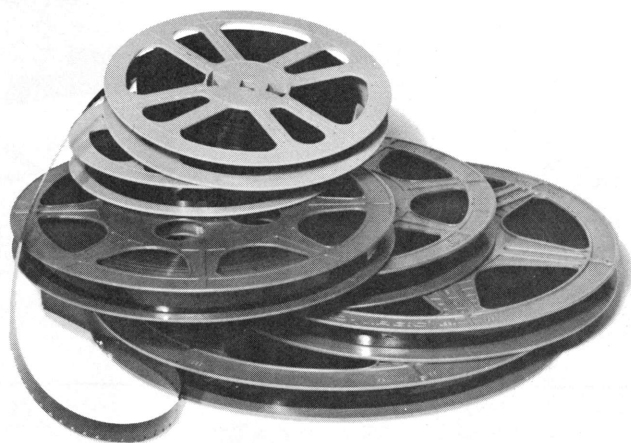
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times and had to move to the next set-up and again rehearse it, lay all the tracks and leave the tracks there for the next day. So we actually pre-planned a whole day of shooting that included five or six different sequences for three or four cameras. Miraculously enough, we shot it in one day, which otherwise would have been impossible to do unless it had been very well planned.

Our most ambitious undertaking for the opening of the movie was the big dance sequence shot at Mansfield University. We were to have 200 couples dancing to the tune of the Blue Danube Waltz. In the middle of this square we had to build a tree that they could dance around. Michael just ordered a big tree and a tree was there—after four weeks of work and a few thousand pounds. He handpicked the tree he liked about three miles outside the city and they cut it down and chopped it into 50 or so pieces and marked the pieces and transported it to where they had to put it together again. They set the tree trunk into about 40 tons of cement and started reconstructing the tree from the bottom up, until everything was in place except the leaves. The tree had to have leaves, of course, so they cut down leaves from another area and had to put them on every single branch of that tree. It was really incredible; I couldn't believe what a good job those English technicians did with that tree. When we walked into that square a day before shooting, there was this fantastic big tree, looking like it had always been there. It fit the location so perfectly that everyone asked why there wasn't such a tree there before. It just changed the whole exterior of the university. It *had* to be there.

We actually had two different sequences to shoot there, which required two different days. Again we had to go through the same routine we did on the streets in order to pre-plan all the shots, making marking on the ground where each of the four cameras was to go. It was quite complicated, because we also had to shoot some dolly shots around the tree. What we did actually was build a circular dolly track around the tree and put three Elemack dollies on the track with three cameras, three operators and three assistants. Each camera had a different function. One camera was covering Kris Kristofferson; another camera was covering John Hurt and a third camera was covering another person. We had to have rehearsals with the dancers and the operators until we really knew what each camera was trying to capture. Again, pre-planning did the trick. With four cameras shooting all day, we had so much coverage that Michael had everything he needed. He likes to have the luxury of a

lot of different angles and image sizes. He always likes to build his sequences with lots of little details—people's reactions and the little two-second and four-second pieces which add mood to a sequence that is otherwise not there when you just film a master shot. For example, in a long shot you don't see the faces and Michael did not want to sacrifice those touches because of limited time and budget. We solved the problem through careful pre-planning and the use of multiple cameras. Now when he looks at the cut footage and I ask him how he likes the sequence we shot in England, he says: "If we'd been shooting there for five months it couldn't be any better than the sequence we shot in one day." We had enough coverage, enough cameras and enough good operators and he got what he wanted.

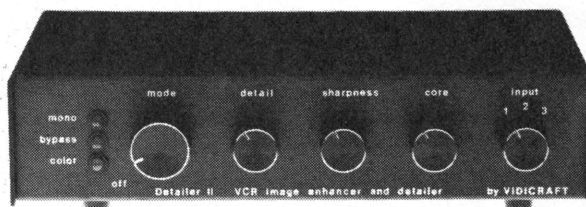
This brings up a question in regard to future production. I'm sure that once it becomes known that a big budget picture like HEAVEN'S GATE was shot in this way, people will question why we spend ten million dollars on a film when it can be done for two million dollars. Now, I don't know if this is the right way to make motion pictures. Frankly, I don't think it is. We did it because we were pushed to do it, but I feel that directors and cameramen should have the luxury of shooting schedules that give them room to think a little bit, to create. I don't believe this is the way to shoot important sequences—but we did it.

In England we filmed the very first shot of the picture, in which the camera starts on the sky, tilts down a tree and then continues tilting and craning down a church tower. We see Kris Kristofferson under the arches of the tower in a beautiful morning backlight. The camera picks him up and starts moving with him and panning through the trees as he runs and disappears around a corner. The camera stops on a poster which says something about a graduation ceremony that day. Obviously Kris is late and is running after the rest of the students who are already marching with the band.

How we made this shot is really incredible—and I am talking about a 40-million-dollar picture. We had to "steal" the shot in the middle of Oxford on a Sunday morning because we didn't have permission to shoot it. For Michael this was the only shot he could envision as an opening for his picture and the Production Manager made everything possible by talking to the guards connected with the university that would not give us permission to shoot.

On Saturday night, all the people who were to throw dirt on top of the concrete were working all night very quietly. The next morning the crew got there at 4

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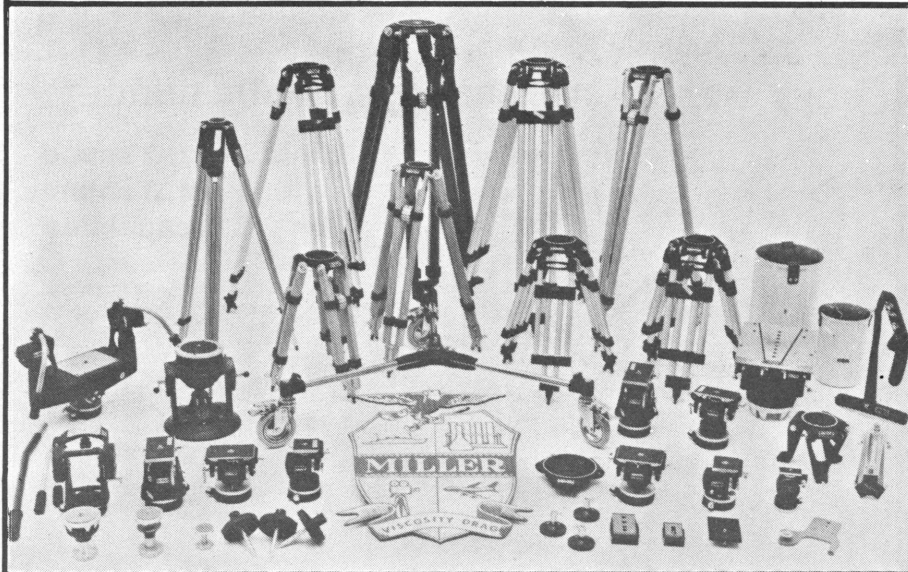


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o'clock. We had to build the dolly tracks and set up the crane before the sun rose—and it's very "iffy" in England as to whether you will have sun or not. We were very lucky. The sun came up that morning. Kris was ready and we were all ready. We sent Kris through the arches and onto the college campus where we didn't have permission to shoot and as soon as he was there Michael said, "Action!" The camera tilted down on the tower and we picked him up and moved with him.

We shot three takes of the scene and we were happy with the third take, but I wanted to do one more take because I felt that the sun was not high enough to put a backlight on Kris as he went around the corner. Michael, being a perfectionist at heart, was tempted to say, "Okay. Let's do one more." But he also didn't want to get caught, because that would have jeopardized the following week's shooting at Mansfield College. So he had to say, "No. That's that. Forget it. Clean up everything and let's go."

That's how Take Three became the one that actually opens the picture. It is so beautiful on the screen, because when the camera starts tilting down and the sun is hot behind the tower with the fog filter over it, somehow the whole tower seems to be glowing. It is a beautiful effect, like that which is sometimes seen in old still photographs of churches or buildings that were shot in backlight. It's an incredible glow and I still don't understand how it was created, because on film it looks so much more magical than it does in real life. I think it is the magic of the camera. Something happens in the camera that your eyes don't see. You are always hoping for such a result, but it's really the camera that works the miracle.

There were two more sequences that we shot in England. One of them was only three or four pages long, but it was very important because it was the final sequence of the picture. The action begins in 1870 (which was the sequence we shot in Oxford), and the second part of the film (the 95% of the action which we shot in Montana) takes place in 1890. The ending sequence happens 15 or 20 years later in Newport, Rhode Island. It required aging Kris Kristofferson and it also called for a steamship, which we found in San Diego, but the ship couldn't be transported to Newport. This meant that we had to shoot the background plates in Newport at sunset in a beautiful harbor with some fabulous old mansions on top of a hill. It had a real period look of the era in Newport.

We took the plates to London where we planned to shoot with front projection. We built a portion of the ship on a stage with

Kris Kristofferson standing in silhouette against the sunset. He then goes below decks and we have a whole interior sequence in the cabin. Later we would go to San Diego for an establishing shot at sunset—three stages of shooting for a simple sequence like this.

Now, all of this had been pretty well planned and we didn't even dream that we were going to run into trouble with the front projection. But there were problems, mainly because our plate was such a delicate pastel sunset image—clouds with slight movement of the ship against a hazy horizon. Because of the movement of the ship, the front projection screen revealed the uneven patches of the 3M material. In the middle of shooting we had to change gears and film the scene with blue screen so that the composite could be made back in Hollywood.

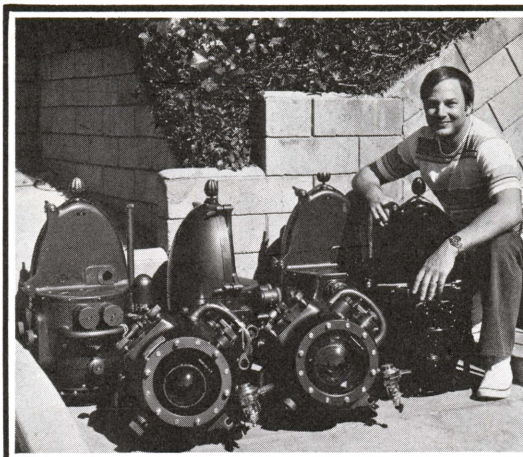
Stanley Kubrick used front projection in 2001: A SPACE ODYSSEY, but his plates were still plates. You can get still plates to look smooth and very, very beautiful.

We had called all the experts in London to try to get an answer to our front projection problem and they said, "Well, it looks like we just cannot do this kind of a shot with front projection. Most front projection scenes are low-key scenes, never really pastel scenes."

As for the interior scene in the cabin, we just wanted to create a sunset feeling inside a relatively dark space, which meant bringing lights in through the portholes and trying to use bounce light as much as we could in order to stay low-key. I found this part of the shooting to be pretty standard.

I didn't want to use any Brute arcs for the shooting in England because, first of all, it would take too much time to use them. Second, we could not use them inside the Sheldonian because of the smoke that they give out. We couldn't use Brutes at Mansfield because they would have destroyed the grass which we wanted to keep nice and clean and fresh for the dancers. In addition, I feel that it's out-of-date to use Brutes, so we planned the entire shoot with HMIs because of their flexibility and lightweight qualities.

We next looked into the problem of using HMIs in Europe, where they have a 50-cycle current. When filming for television they don't have a problem because they shoot at 25 frames per second, which is an ideal ratio for a 50-cycle current. But we were shooting at 24 frames and, in consultations with David Samuelson, we were told that in order to avoid flicker problems we should run the generators at 48 frames. I was very surprised to hear this, because in the States we always have the generators on 60 cycles and we shoot with a 200° shutter on

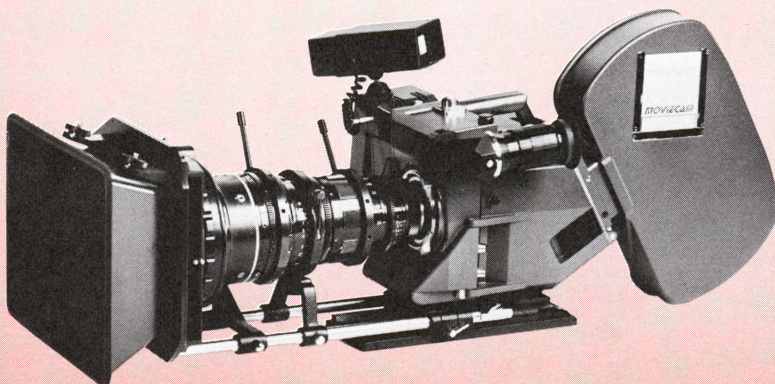


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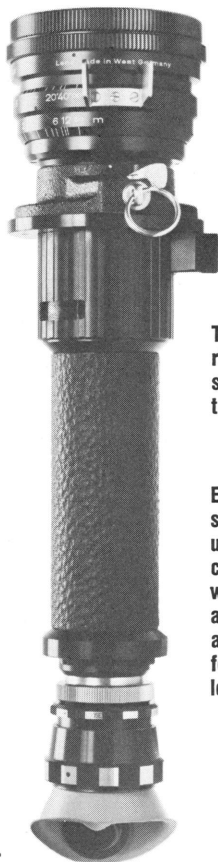
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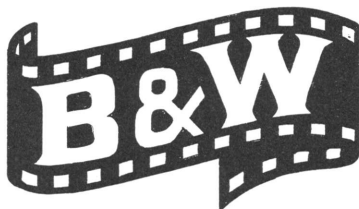
a Panavision camera and we never have any flicker problem—unless a generator goes haywire. But by looking into this in England, I learned a lot about the advantages of shooting with 48-cycle generators. It is not only that the window is so big that you have a much wider area of tolerance, but you can shoot high-speed with the camera. I found that I could shoot at 48 frames and not get a flicker, whereas in the States I cannot use anything but 24 frames. So I tried it with the generators running at 48 cycles and found it a very convenient way to work with HMI lights. I am looking into the situation now to find out if we can convert our own generators to 48 cycles.

We had a night sequence to shoot at Mansfield with the action taking place right after the dance. It was a sort of early night effect—like "dusk-for-night". Again it was a very big sequence that we had to shoot in one night. Again, we had to pre-light, which meant that I had to stay there the night before with the electricians, since you can light a night sequence much better in darkness than in daylight. So we had to set lights and lock them down so that the next night when we were shooting we would know that they were still in the same positions. Some lights could not be left in position overnight because they would be picked up by the cameras during the day shooting, so it was necessary to move 30 or 35 lights into position and fairly fast.

It was a low-key situation with candle-light coming from the windows and supposedly the whole square (including our famous tree) was lit by those candles in the windows. It was pretty tricky to get this source to look real and it required four or five hours of rigging the night before. The next day we just had to turn the lights on and shoot during the Magic Hour. Obviously, we did not have much time to adjust lights. We just hoped that what we had set the night before would be okay.

The master shot turned out very well. We shot it again with four cameras and when we moved in to shoot close-ups of the girls in the windows with candles, I was able to adjust the lights. We had a little time to do this, but not much, because we had to pull the plug at about 10:30 to avoid having the extras go into overtime, which would have cost a tremendous amount of money. So we had to really work fast, but many things can be done if you can carefully pre-plan them and pre-light as much as possible. I won't recommend doing it on a 40-million-dollar production, but for us it was the only way to do it—and we did it.

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scratched. This was due mainly to the devotion of our meticulous assistant cameramen, particularly Mike Gershman.

Again, I cannot say too much in praise of the dedicated cast and crew of this picture—the most professional group of people I've ever worked with. But special praise must go to Michael Cimino, who wrote and directed HEAVEN'S GATE and who hung in there against some pretty rough odds to get it made.

It is his vision that is up there on the screen. ■

DIRECTING "HEAVEN'S GATE" Continued from Page 1169

posed to another, one valley as opposed to another, one river as opposed to another. You pick river-X and mountain-X and valley-X, as well as the wardrobe, and eventually the look is inevitable in many ways. And in addition, as you place buildings, as you place streets, you are doing it specifically; you are deliberately lining a street to face east/west or north/south, because you know that the sun is going to be in a certain position most of the day and the quality of light you like best you will get by placing the street at a certain angle to that light. You plan all this to capture the spirit and the quality of the environment that you are in. So you really are creating the look from the very first thing that you do, from the very first choice that you make—and then that is refined further by how one feels about the lighting of the interiors and by dealing with the realities of the period. You begin to see what you want; it begins to tell you. Again, it's a question of the film telling you. It begins to suggest things and then, finally, to demand things. It begins as a very easygoing relationship with a lot of suggestions and finally it begins to make very strong demands.

QUESTION: You worked with Vilmos Zsigmond on THE DEER HUNTER, of course, but can you tell me about your working relationship with him on this film and how the previous one may have prepared you for it?

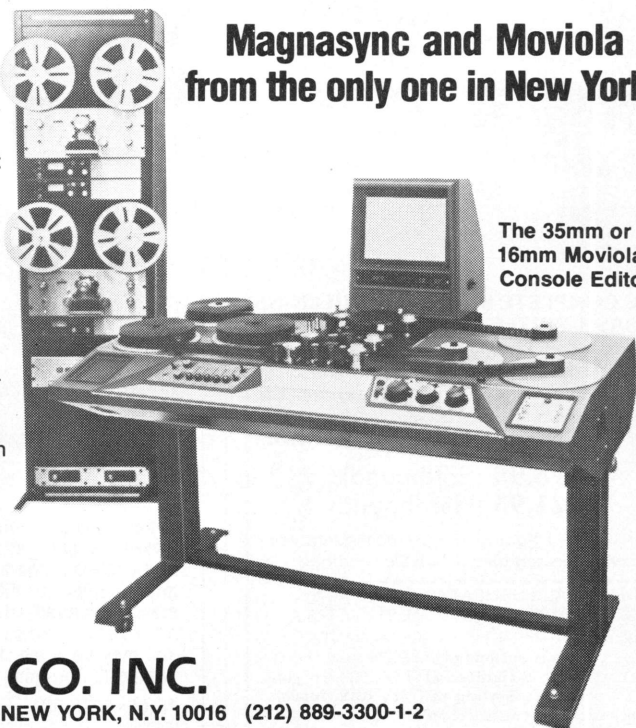
CIMINO: As to working with Vilmos—as well as some of the other people who came with us from one film to the next—I really said what I could say the last time we talked. But what I found and was happy to find on this project was that the relationship with Vilmos continued and got better and was enriched, and it was for me an extremely comfortable relationship in the sense that I feel that we are always both committed to the same

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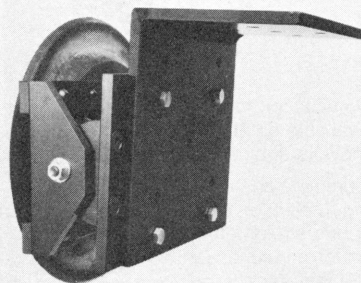
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things and I can count on Vilmos to be relentless and tireless, and I know that no matter how tired he is, no matter how long we go, he's not going to compromise anything for us. I think we kind of have that understanding and it is a tremendous support to know that you have people who won't compromise their fields of work, that you can count on, not only the strength of that commitment, but the strength of their obstinacy—which is a wonderful thing, because people tend to agree too much, too easily and without much of an argument. It is terribly important to have a core of people who won't do that and who you know won't do that.

QUESTION: Do you feel that, in visual terms, you got what you went after?

CIMINO: I think that, for the most part, what we set out to get we got. We tried to be as meticulous about it as we possibly could and, as you know, on a film where the production schedule stretches for so long, it is terribly hard to do simple things, like matching light where you are shooting interiors and exteriors four or five months apart and it's supposed to look like the same day. One of the interesting technical problems was that, for a number of reasons—many of them having to do with weather and the logistics of moving large numbers of people—we made the decision to keep the interiors rather dark and pierced by very strong shafts of light. Of course, when you do that, you are naturally committing yourself to the direction of that light. You are concerned with where that light is coming from. We had the problem of doing interiors where we made that commitment four months before we did the exteriors, so we had the obvious challenge of trying to remain faithful to established light sources. I think we beat that one.

QUESTION: You told me on the set that you feel that HEAVEN'S GATE is Vilmos' best work. What makes you say that?

CIMINO: It's a hard thing to explain. It's a very subjective remark. It's like looking at two paintings or a dozen paintings and saying, "I think this one is best." It may not be the best for anyone but you. I guess it's when you feel that someone has complete mastery of all the formal elements and has invested them with as much passion as one can manage and has been concerned with the quality of the image, with the visual rhythms, with the texture of light and dark—and when you see all of that sustained over a long period of time, you think that it's pretty

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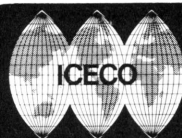
good.

COMMENT: Sustaining is what separates the men from the boys, really.

CIMINO: Once you set a certain standard visually—if you do one scene that has that kind of richness—it is very hard to not push for that in everything, and harder still to get it in everything. It takes a very strong obsession and a lot of stamina and a great deal of knowledge and experience, as well. With it all, the work has a certain spirituality, if you like. You see on film what you feel from being in that place with those people, and even you can feel, when you see it, that somehow you've transcended something. You've transcended all of those problems that every film has and that every filmmaker has—weather and logistics and people and money and everything else. Somehow you've gotten some special feeling from the place and it's extremely rewarding. But to get that, very often the place makes you pay a high price. Some places have that quality and spirit more than others and one needs a great deal of patience, a great deal of stamina and a certain amount of courage in dealing with such places.

QUESTION: Did you have many weather problems during the shooting?

CIMINO: In Montana the weather was so changeable that there were many days when we had sunshine and snow and rain, heat and freezing cold, all in the space of a single day. It would look like four different seasons sometimes in the course of a morning. It snowed most of June, July and August and it was sizzling hot in October and November. You could be in the most incredibly beautiful spot and it would be absolutely overcast. The clouds are moving overhead and the wind is blowing and you know that the sun is up there at the most perfect place behind the mountain and the mountain is making you wait and the sky is making you wait and the wind is making you wait—and you sit there and you have to make a decision whether to do it in the light that exists or wait for the better light, which might never come. So when you have all that pressure of time and money and hundreds of people standing around, you have to make those decisions all day long—and the place knows that. It's watching and waiting to see what you do. You can't take things from mountains; they have to give them to you—and unless you are willing, I think, to respect the nature of a place, it won't give you anything. It can also destroy you. It can send you weeks of



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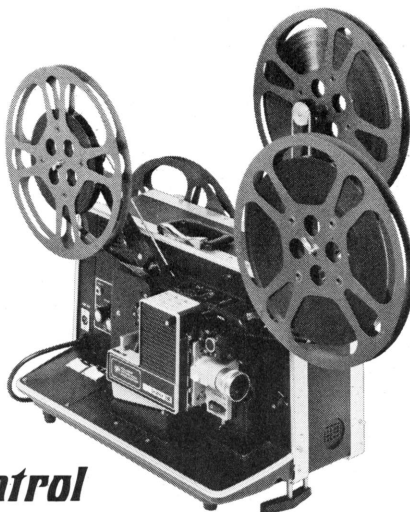
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storms. We had all of the local people remarking that it was extraordinary, amazing; they had never seen weather like that in 40 or 50 years.

COMMENT: I was astounded when I was up there with you working on the battle sequence that the weather remained absolutely right (bright sunlight, cloudless skies) day in and day out during all of the time that you were shooting that sequence. A perfect match that caused not one minute of hold-up in production.

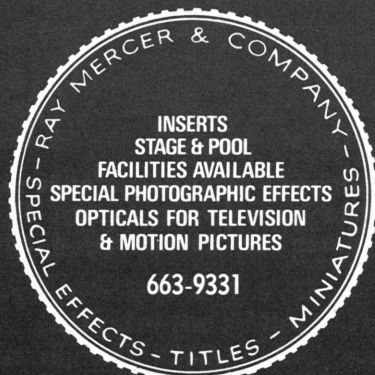
CIMINO: Well, I don't think such a thing is accidental. I think it's all part of the same thing. When we were finishing the battle sequence—at the very end of the battle, which we had spent close to a month on—it was the very last day and the very last shot and, as Kris was walking away, I felt that we needed wind to blow across the battlefield. We had made no provisions for wind, but somehow I kind of raised my hand (in a gesture of need more than anything) and the wind came up, and I raised it again and it came up harder. Needless to say, the crew was astonished that it happened.

COMMENT: They should see you walk on water.

CIMINO: I think it's not nearly as mysterious as it sounds. Certainly the American Indians believed that there is spirit in all things, that everything—the birds in the air, the air itself, the things that move on the earth, trees, water—everything has spirit, everything is spirit, and I think that in order to deal with places like that, one needs a certain amount of communion with that spirit. I don't think you can do without it.

QUESTION: And what about the effect on people?

CIMINO: I really think that that's part of why the crew had such tremendous spirit. It was a good place, a healthy place, the air was clear, the people were nice, the rivers were clean. That has an effect on you. We are human beings. We live, we breathe the air, we drink the water. You can't feel very, very good in a place where every day there is a huge sign as you come to work telling you that you should stay home because the air isn't fit to breathe. It has an effect on you, like it or not. But if you are in a healthy place where the air is wonderful, clean and clear and you can drink the water of the river and where the mountains are beautiful and the sky is beautiful and there is wildlife, where you can see bears crossing the road and elk and



deer and eagles and salmon in the rivers, it has a very powerful effect; you feel at one. And if you feel good, how can you help but work better? I don't feel that it is so surprising. People spend years looking for the perfect place to live, the right place to build a home, because that place communicates some special quality. Very few people think about that when they work—yet it will only make you work better; it will make you feel better about yourself and about what you are doing, because it is all an organic whole. You are not alienated from the environment. The environment isn't an enemy that is saying, "Stay inside, because you'll get emphysema if you go outside." Where we were, those mountains were called "The Shining Mountains" by the Indians. I don't think there is another place in the United States where you can see bears crossing the road, eagles hunting salmon in the river, elk, deer, wolves. In what other state can you see that driving on your way to work? Where else can you experience that? You can stand in one place and watch the sun come up over beautiful mountains and go down over beautiful mountains. I think all of those things contribute to people's sense of well-being. The people who were on HEAVEN'S GATE worked terribly hard and they suffered a great deal physically from cold and fatigue and everything else and yet, I don't think there was a person who was up there who wouldn't like to be back there this minute.

QUESTION: What about the location in Idaho where you built the town of Casper?

CIMINO: It had the same characteristics as those we have been describing. It was a lot bigger and a lot more complex because of the size of things. It was the single largest set—an entire street of the city with six and seven-story buildings, 40-foot telephone poles and the train, of course, which we brought in from Denver.

QUESTION: Did you build onto an existing town, and, if so, how much refurbishing had to be done?

CIMINO: There was an existing street consisting mostly of one and two-story buildings, but we literally built a new town. We had to completely cover most of the existing buildings that were in the shots. The largest facade we built was, I believe, six stories and almost a city block in length and we obscured a one-story supermarket. We just completely built around it. The primary reason we went there was not because the town



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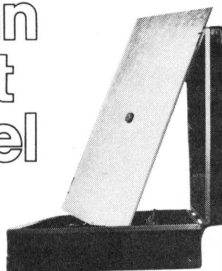
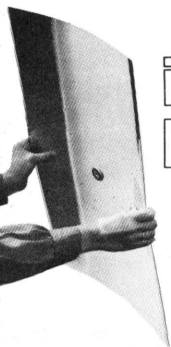
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existed as we needed it—we had to completely build that—but because it had a functioning rail depot where the tracks ran. We needed tracks to run through the center of town and it was the only town in dozens of states and Canada included that had a standard gauge—not a narrow gauge—railroad. So it came down to either building a railroad through a town or building a town around a railroad. It was decided to build a town around a railroad.

QUESTION: Can you tell me about the town that you built actually inside Glacier National Park?

CIMINO: The town there was called Sweetwater and it was built at the foot of Two Medicine Lake, which is right in Glacier National Park. That's where we built an immigrant settlement, complete with church roller-skating rink, various tents and bars and restaurants. In order to preserves the natural environment of the park the entire town had to be platformed three feet off the ground, including the streets. So we were not building directly on the land itself. It was a terribly complex and difficult job. Of course, it all had to be dismantled and the site put back the way it was when we were through shooting.

QUESTION: Did you film both exteriors and interiors there?

CIMINO: There were certain buildings—four or five of them—that were actually constructed twice. They were built once in the town of Kalispell, basically for the interiors, and then those same buildings were constructed again, principally for the exteriors, in Glacier. The travel time was so great to the Park that we never could have gotten all the local people there. A lot of the locations were so remote and difficult and time-consuming to get to that, in many cases, we had to double-build certain structures.

QUESTION: The principal set for the roller-skating rink, where you shot the interiors—was that right in Kalispell?

CIMINO: Yes, but it was blown down twice by high winds. The night we drove back from Wallace, Idaho it was just completely flat. The boys stayed up all night and all day and they had it up again within 48 hours. The winds were quite fierce up there. As you know, we had many days with 75 and 80-mile-an-hour winds.

QUESTION: Since the subject matter of HEAVEN'S GATE is based on a true happening, to what extent did you

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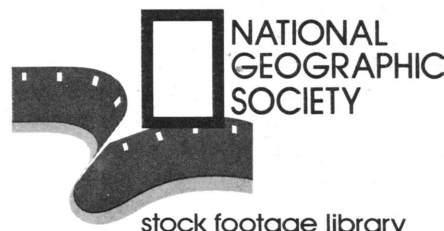
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have to research that in order to handle the writing and directing?

CIMINO: Research is pretty much what I've always done. We did the same work on THE DEER HUNTER and other projects. Again it always seems to come down to a question of time. The actual fact of what amounted to a mercenary army being hired to literally assassinate a county of people is a true enough event and it's been treated and dealt with before in various films and works of fiction, just as Vietnam has. I don't think it's ever been dealt with in quite this way, but HEAVEN'S GATE is not specifically about that conflict—although I said that about THE DEER HUNTER, didn't I, and a lot of people didn't agree with me.

QUESTION: Can you tell me about the shooting in England?

CIMINO: Well, we needed a university atmosphere, really an academic atmosphere, and one that kind of communicated a sense of history and privilege—privilege being the most important thing. We went to Harvard—which, incidentally, was very limiting, because the buildings from that period that were still architecturally pure were very few. We would have been forced to use three buildings essentially. They were in one corner of the Yard and it would have really meant shooting into a kind of L, into a corner, with very little opportunity to turn around. There would have been very little flexibility to do anything else. It's a very good example of what I meant by a place limiting or enhancing the staging of something. We would have automatically been restricted. Also, Harvard, at that time, was going through some problems with a film that had been done previously and they were getting a bit disenchanting with films being shot there. So we went there and looked at it and sent some people literally all over the United States, England and even Ireland looking for a suitable place. Finally Oxford was a place, again, which just seemed spiritually right. It isn't Harvard any more than the Cascades are the mountains of Pennsylvania, but they are right for the story. The mood and the tone are right for what one is doing and, after all, you are not writing history. It's a work of fiction and you must find a place that excites you and appeals to you and inspires you in some way—and that was the place. The exteriors and the interiors were both extremely exciting in terms of what we needed, and a lot of the difficulty was caused by the fact that we worked so radically out of sequence. We actually shot the beginning after we had shot everything else—and that's quite

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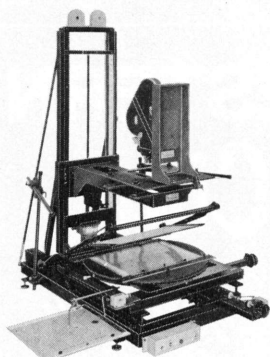
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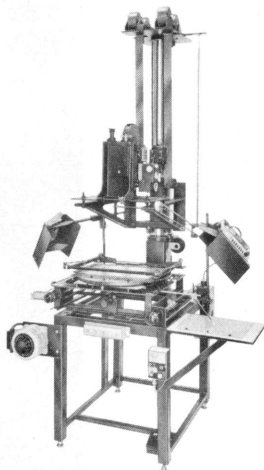
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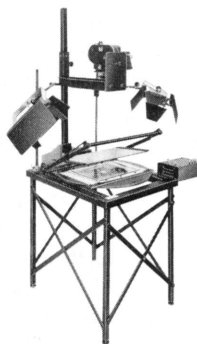


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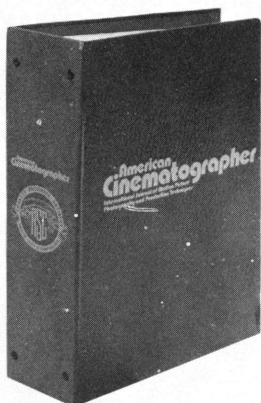


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difficult for obvious reasons. Kris Kristofferson begins the film as a man in his 20's. In the middle of the film he's a man in his 40's and at the end of the film he's a man in his 50's—and that presented its own problems.

QUESTION: Did you use an American crew or an English crew?

CIMINO: The basic department heads came over from America and we used some very fine people from England, as well. Again we had remarkable luck with weather. It was a bit like preparing another film. Our unit in England was in preparation, I would say, for close to four months, just on that one segment.

QUESTION: Can you tell me about the tree that you built for that sequence?

CIMINO: Well, the script called for a tree of substantial size and the quad in the one college at Oxford that was right for our purposes didn't have one. Fortunately we were able to arrange with the college to put one in, but we needed one of such size—approximately six or seven stories—that the English restrictions of what could be transported on a road were far exceeded by the size of this tree. So the tree actually had to be cut into hundreds of sections and literally bolted and cabled together in the location. All the pieces had to be numbered and it was held up by about 40 tons of concrete. It was just an enormous job. It took several months just to get it into place and all assembled.

QUESTION: Did you have any problem getting anyone to let you cut down a live tree?

CIMINO: No. It was a real tree, but an old diseased tree which we purchased from a farmer.

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 Continued from Page 1167

put over my nose and mouth, but all it does is suffocate me. The lenses and cameras fare a bit better; at least they get carefully blown off by the assistants between takes.

Since there is an incredible amount of gunfire during each take, my heart goes out to the special effects guys who have to rig and re-rig hundreds of explosive squibs each time the cameras roll again.

It has been a long day. Vilmos and I head for the Jacuzzi when we finally stagger into the hotel that night, too tired even to eat. Nobody will have to rock me to sleep.

Getting Up in the World

The next day finds me manning a camera that is perched on top of a 12-foot ladder—a poor man's parallel. The scene has an epic sweep. There are hundreds of immigrants fleeing for safety with their wagons across a shallow pond and into the trees. I am supposed to capture the full panoply of this rout and then pan with the wagons as they head for the woods.

Fine. Except that one of the wagons has been rigged to literally explode in front of my camera—which it does neatly on cue. But a hunk of it goes whizzing by the leg of my ladder, missing it by centimeters. Again, the god that watches over cameramen saves me from being catapulted on my face into the drink.

That afternoon Kris Kristofferson has an even closer squeak. He is playing a scene which precedes the one we have shot in the morning. The immigrants are fleeing and he rides up shouting, trying to persuade them to hold their ground. According to the script, they ignore his pleas and he finally rides off.

We have four cameras arrayed on the ground at the spot where Kris is supposed to ride up and attempt to grab the reins of a fleeing immigrant's horse.

On the third take something goes wrong. Kris's horse stumbles and falls right on top of him, pinning his right leg underneath and thrusting his face directly into the lenses of the four cameras. We are all horrified. I am convinced that Kris must at least have suffered multiple fractures of the right leg. But miraculously he gets up, very shaken, but otherwise unhurt. Michael starts to order another take—but then it occurs to him that our four cameras have captured a priceless bit of footage: a spectacular horse fall with the star unmistakably doing it himself, a bit of action he would not have dared to try to stage deliberately. Wisely he calls for a bridging shot that shows Kris getting back on his

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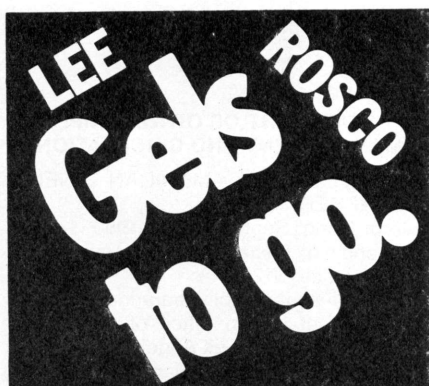
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horse and riding away.

Our shooting extends into the Magic Hour, with an exterior-interior scene that tracks several characters across a landscape and inside a log hut, where perhaps 40 immigrants are bedded down on the straw-covered ground, singing a plaintive folk melody.

It is on this sequence that I get my first look at the Little Big Crane that I have heard so much about. It is a portable crane that can be assembled like an Erector set in very quick time. Yet it swings the camera up as high as 18 feet or down to ground level. Designed by Key Grip Dick Deats and Art Brooker, it is making its production debut on HEAVEN'S GATE.

For the upcoming shot it is mounted on a flat 12-wheel dolly platform riding on about 60 feet of track. In the scene, the crane dollies with the characters outside the hut, then follows them inside for a lengthy dialogue exchange. Needless to say, it takes a bit of doing to balance the exterior and interior lighting just right for this scene but after four takes, which is about the extent of the Magic light, the scene is in the can.

After that, Michael shoots a silent reaction exterior close-up of Brad Dourif. It takes about 1,500 feet of film to capture the fleeting nuance of emotion which he is after, but he's finally satisfied. Then it's "Home and Mother".

During this whole long day I have paid particular attention to observing my friend, Vilmos Zsigmond, in action. It has been almost a decade since I first went on location with him—1,200 feet down a rocky gorge in Georgia for the filming of DELIVERANCE. What impressed me then was his boundless energy, plus an avidness that extended far beyond mere dedication to the project. It was a total devotion to artistic quality. I note that those characteristics are still the same. Time has honed his skills and an Academy Award (CLOSE ENCOUNTERS OF THE THIRD KIND) has verified his pre-eminence in his chosen profession, but he still works as tirelessly as ever, his energy fueled by an almost adolescent enthusiasm—a beautiful quality to perceive.

I have heard rumors that in a couple of months Michael will be shooting a prologue and epilogue for HEAVEN'S GATE—perhaps at Harvard, perhaps in Florida, perhaps in England. I ask Vilmos if he intends to follow through in shooting those sequences.

"Yes," he says, "I'm keeping myself free to shoot them whenever Michael is ready. I've worked on several other films where the director decided, several months after completion of principal filming, that he wanted to shoot additional

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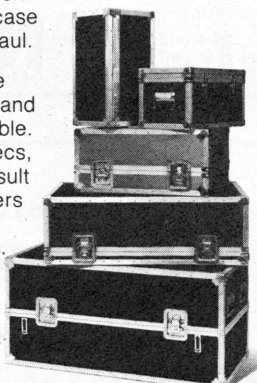
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sequences or drastically change existing ones. Because I was tied up on another project, I couldn't do the additional photography and one or more other cinematographers had to do it. This time I'm not making any commitments that will prevent me from photographing every frame of HEAVEN'S GATE."

Crack of Dawn

We are told that on the following day we will have to be ready to shoot at first light. Michael literally wants to see the sun coming up over the horizon in the opening shot of the climactic battle sequence. Vilmos and I decide that we will never make it if we do the five-hour round trip to and from Kalispell, so we decide to stay overnight at Polebridge, a tiny hamlet of huts and trailers about eight miles from the location.

Polebridge is no tourist haunt. It is the real thing—the most genuine Western scene I've witnessed outside of John Ford movies. It consists of a conglomerate of log huts and trailers clustered around the two focal points of action: Polebridge Mercantile, a wonderfully authentic country general store that still sells such anachronistic goodies as buggy whips, grape shears and wig stands—and a combination cafe and saloon, right out of a movie, that is a genuine cowboy hangout.

We eat dinner in the cafe-saloon and revel in the tall tales spun by the cowboys. I have always felt wonderfully at ease in the company of real cowfolk (perhaps the result of a previous incarnation) and I enjoy the evening hugely.

But all too soon it is time to hit the road for the location. When we arrive, still in darkness, the grips are already at work hoisting the Little Big Crane up on top of a 10-ton truck. It will have two cameras mounted on it—one with a 30mm lens, the other with a zoom lens and both cameras will be controlled by a single operator. Hoisting the crane atop the truck will bring the lenses 33 feet off the ground and, if need be, the crane can swing down to within five feet of ground level.

The rest of us camera jockeys will be positioned within the barricaded circle from which the mercenaries are firing at the encircling immigrants. Because we will be within camera range of the two crane-mounted cameras, our own cameras will have to be camouflaged and we ourselves will have to don the costumes of the mercenaries—fedoras and full-length dusters. As I am outfitted in this outrageous gear, it strikes me that this is a really weird kind of battledress, but it's authentic.

Once again, I am pleased to find that I have the main camera angle within the

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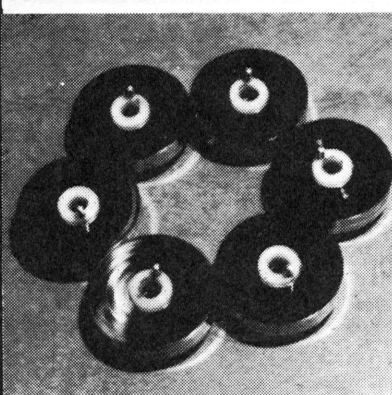


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circle—the one pointing directly at that part of the horizon where the sun will come up. What makes the situation somewhat hairy is that, in addition to the actual mercenaries, the cameras and us decked-out cameramen, there will be many horses within the barricaded circle. There are two of the beasts standing rump-first next to my camera and I ask the wrangler to please turn them around, lest they start bucking with their hind legs in the heat of the gunfire and explosions that will go off during the take.

While preparation is going on, Vilmos is giving the assistants moment-by-moment alterations in exposure over the walkie-talkies. Each fraction of a T-stop is announced and adjustments are made accordingly. Meanwhile, all of the special effects are double-checked, including a huge powder charge in a trench directly in front of my camera.

The actual moment of sunrise is finally at hand. Through the walkie-talkies we are given the command to roll cameras. We do so and all hell breaks loose. Incessant gunfire and explosions blend into a roar. What I can see of the action through the Fullers earth dust looks spectacular. While the world is coming apart, I am looking through the viewfinder with my right eye, but I open my left eye momentarily, only to see a horse's hoof go flying by within millimeters of my head.

When "Cut!" is finally called, we feel like real battle casualties. My assistant, aware of how close I have come to getting my head knocked off by a frightened horse, says, "Gee, Vilmos gives you all of the most dangerous camera positions." I laugh, having to force it a bit. "Maybe it's because he knows I used to be a combat cameraman and nothing spooks me," I tell him, secretly admitting to myself that I was a bit spooked at the sight of that horse's hoof flying past my head.

The master shot is a one-take situation (there is, after all, only one sunrise in a morning), but we do coverage and cut-aways and pickups. Tons more of Fullers earth are dumped on the ground, and the special effects crews patiently re-rig the hundreds of explosive charges and squibs between takes. Michael Cimino keeps at it until he's sure that he has captured on film everything he will need.

I find myself filled with respect and admiration (and, yes, affection) for this dogged artist. Being a director myself, I appreciate the special kind of loneliness he feels. Surrounded by hundreds of the top technicians in our industry, he is, nevertheless, *alone* in a very specific way. If his picture is a success, the glory will be shared by everybody who had a hand in it. But if it is not a success (with a very fickle public), he alone will have to

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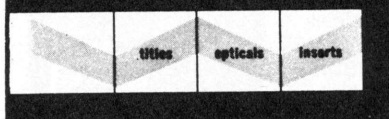
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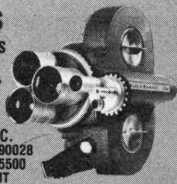
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shoulder the responsibility.

I have had the pleasure of having been on the set with the world's greatest film directors, but with the exception of David Lean, I have never observed a director so completely absorbed, so thoroughly dedicated to the pursuit of quality on the screen. There may be those on the crew who resent his relentless perfectionism (although nobody says so), but even they must be filled with pride when they see the results on the screen.

A Reluctant Farewell

For me this adventure is over all too soon and I must be on my way. On that last day I shoot till noon and then, aware that I haven't even had a chance to see Glacier National Park, Michael very kindly offers me his car and driver for a personally conducted tour of this magnificent national park. I take him up on it and am bowled over by the spectacular beauty of the place, my love for the American West once again coming to the fore.

The driver graciously points out to me all of the locations within the Park where the company has shot. On the edge of Two Medicine Lake, where the town of Sweetwater was built (on platforms three feet off the ground, so as not to disturb the ecology), there is not a trace to indicate that a cast and crew of hundreds ever shot there, so carefully has the terrain been restored.

Later Michael Cimino has another pleasant surprise in store for me. He tells me that I will have screen credit as a camera operator on HEAVEN'S GATE. I am bowled over. "Why not?" he says. "You did the work. You deserve it."

Predicting the success of a film in advance of its release is always risky business. The tastes of the public are mercurial—and THE DEER HUNTER is a hard act to follow. But just from what I have felt working with this company, and what I have seen looking through the viewfinder, I will stick my neck out and say that HEAVEN'S GATE has the aura of a masterpiece about it.

I hope the public will agree, because such a labor of love deserves success.

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Continued from Page 1090

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TALKING TECHNICALLY Continued from Page 1104

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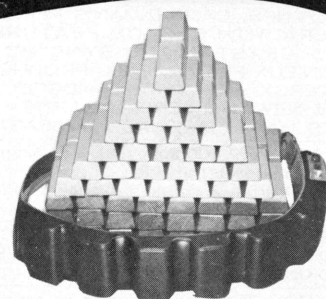
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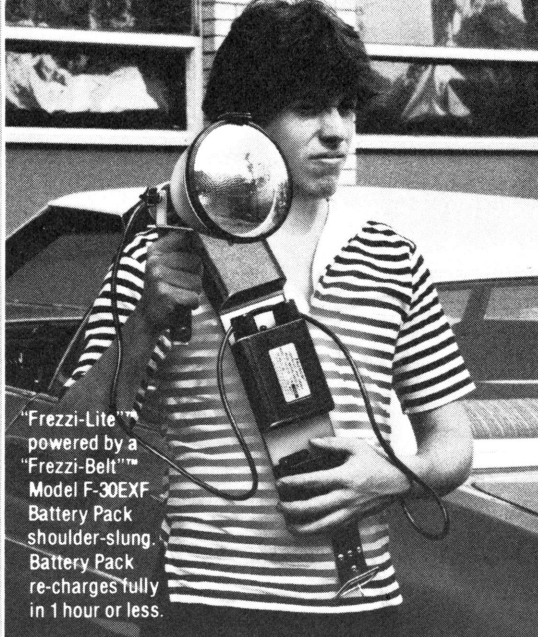
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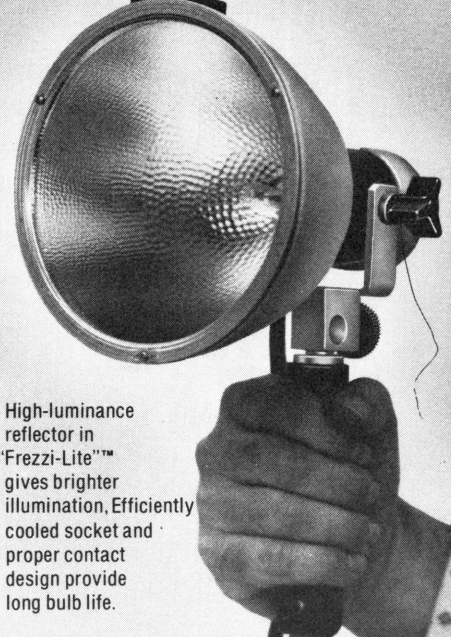
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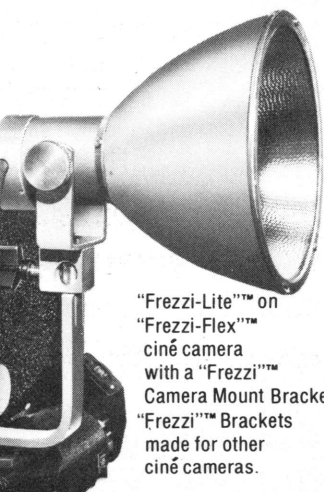


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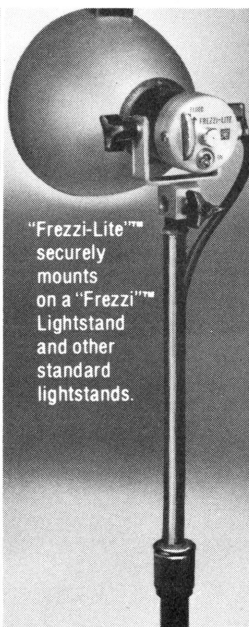


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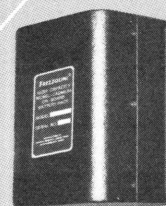
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